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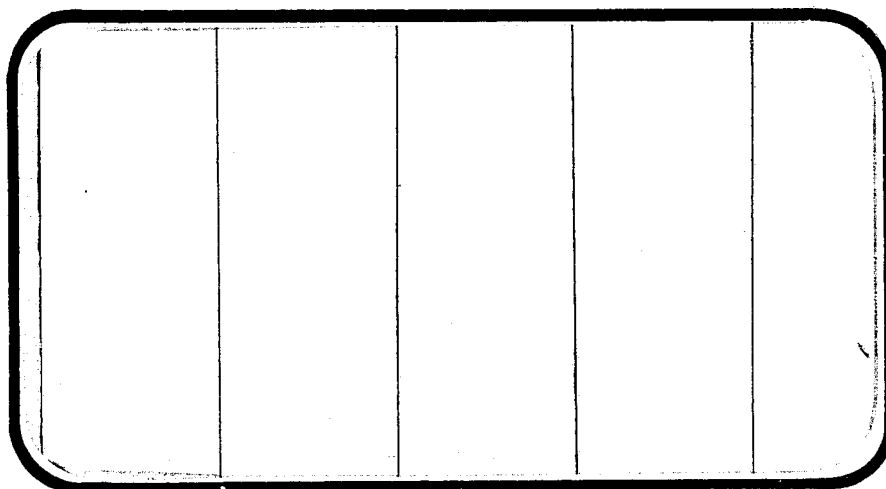
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(NASA-CR-141797) RESULTS OF AN EXTERNAL
TANK SEPARATION TEST IN AFDC/VKF TUNNEL B ON
0.010-SCALE REPLICA OF SPACE SHUTTLE VEHICLE
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER
CORPORATION

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VOLUME 1 OF 3

RESULTS OF AN EXTERNAL TANK SEPARATION
TEST IN THE AEDC/VKF TUNNEL B ON AN
0.010-SCALE REPLICA OF THE
SPACE SHUTTLE VEHICLE MODEL 52-OT
(IA17A)

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by

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WIND TUNNEL TEST SPECIFICS:

Test Number: AEDC Tunnel B VA422
NASA Series Number: IA17A
Model Number: 52-OT
Test Dates: 6 through 15 March 1974
Occupancy Hours: 37

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RESULTS OF AN EXTERNAL TANK SEPARATION TEST IN
THE AEDC/VKF TUNNEL B ON AN 0.010-SCALE REPLICA OF
THE SPACE SHUTTLE VEHICLE MODEL 52-OT (IA17A)

by

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ABSTRACT

Tests were conducted in the AEDC/VKF Tunnel B on an 0.010-scale model of the Space Shuttle Orbiter and External Tank to determine the aerodynamic interactions during a "Return to Launch Site" (RTLS) abort separation. The Orbiter model was built to vehicle 3 configuration lines (139B) and the ET model approximated the vehicle 5 configurations with protuberances and attach hardware.

For these investigations the Orbiter was mounted on the primary support system and the external tank was mounted on the Captive Trajectory System. Six-component data were obtained for each vehicle at various Orbiter angles of attack and sideslip for a range of relative angular and linear displacements of the ET from the Orbiter.

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PLOTTED COEFFICIENT SCHEDULE:

- (A) CN, CLM, CA, CY, CYN, CBL versus DLT-Z
- (B) CN, CLM, CA, CY, CYN, CBL versus DLT-Y
- (C) CN, CLM, CA, CY, CYN, CBL versus ALPHA

INTRODUCTION

An external tank separation test, IA17A, was conducted at Mach numbers of 6 and 8. The test was conducted during the period from March 6, 1974 through March 15, 1974. Data were obtained to define the aerodynamic interference between the two bodies over a grid of five variables (α , β , x , y , z) for various initial conditions of the combined vehicles. Six component aerodynamic characteristics were obtained for both bodies. The effects of the interference on elevon effectiveness (elevator and aileron) were also investigated. All objectives of the test were met.

This report for IA17A consists of three volumes. Two volumes consist of data figures while the third has the tabulated source data. Volume one contains Figure 4 through Figure 22 of the data figures and volume two has Figure 23 through Figure 51.

NOMENCLATURE General

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ _{REF}	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point
	XM RP	moment reference point on X axis
	YM RP	moment reference point on Y axis
	ZM RP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D _f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

NOMENCLATURE (Continued)
Additions to Standard Nomenclature

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Description</u>
$C_{p_{B1}}$		station no. 1 Orbiter base pressure coefficient, left side
$C_{p_{B2}}$		station no. 2 Orbiter base pressure coefficient, right side
$C_{p_{BC}}$		balance cavity pressure coefficient
ET		external tank
P_o	P0	freestream static pressure, psia
MRC		moment reference center
RTLS		return to launch site
V_∞		freestream velocity, fps
X_{cp}/l	XCP/L	longitudinal center of pressure, fraction of body length
X_o		Orbiter longitudinal station, in
X_T		external tank longitudinal station, in
Y_o		Orbiter lateral station, in
Y_T		external tank lateral station, in
Z_o		Orbiter vertical station, in
Z_T		external tank vertical station, in.
α_o		Orbiter angle of attack, deg
α_T		external tank angle of attack, deg

NOMENCLATURE (Concluded)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
β_0		Orbiter angle of sideslip, deg
β_T		external tank angle of sideslip, deg
$\Delta\alpha$	DLTALF	incremental angle of attack between Orbiter and external tank, deg
$\Delta\beta$	DLTBTA	incremental angle of sideslip between Orbiter and external tank, deg
ΔX	DLT-X	horizontal distance between external tank nose mated position and instantaneous position during separation, in.
ΔY	DLT-Y	lateral distance between external tank nose mated position and instantaneous position during separation, in
ΔZ	DLT-Z	vertical distance between external tank nose mated position and instantaneous position during separation, in
δ_e	ELEVON	elevon deflection angle, deg
δ_a	AILRON	aileron deflection angle, deg
GRID	GRID	matrix of linear and angular displacements used by the Captive Trajectory System computer to position the model at the required separation distances and angles

REMARKS

During the course of test preparation and running, various events occurred having a possible effect on the test results. These items are noted below.

- 1) AEDC was unable to satisfactorily tube for ET base pressure measurement due to the lack of provisions for these measurements in the CTS.
- 2) A leak was discovered to exist in the reference pressure tubing for the transducer measuring the ET chamber pressure. This affects all ET chamber pressure data after group 110.
- 3) During the running of group 455 the Orbiter balance (-050) was damaged due to a CTS failure. All subsequent data were obtained using a similar but different balance (-048). Since no comparison runs were made between the two balances, the affect on the data cannot be determined.

CONFIGURATIONS INVESTIGATED

Model 52-0 is an 0.010-scale representation of the Space Shuttle Configuration 3 Orbiter, built to the lines depicted in Rockwell Dwg. VL70-000139B. It is of all steel construction to withstand the environment of hypersonic tunnels. Adjustable control surfaces are provided by means of interchangeable brackets.

For this test the Orbiter model was mounted on the primary support system by means of the AEDC/VKF 4.00-Y-36-050 balance and 4.06 -Z-21-047 sting. (After data group 454 the -050 balance was replaced with the -048 balance when the -050 balance was damaged). The primary support system was modified to reduce blockage, resulting in manual, rather than remote changes of angle of attack and sideslip.

The balances were water cooled. Since the flexible tubing used to carry the cooling water to the cooling jacket was larger than anticipated the aft end of the Orbiter model was milled out for clearance, including the main propulsion engines.

The 52-T model is an 0.010-scale representation of the Vehicle 5 External Tank with protrusions and attach fittings as shown on Rockwell Dwg. VL78-000062. The tank model is also of all steel construction. It was mounted on the Captive Trajectory System by means of the AEDC/VKF 4.00-Y-36-049 balance and the Rockwell built VY 109575 sting. The following configuration notation was used:

$$O_1 = B_{19} C_7 E_{23} F_5 M_4 N_8 N_{24} R_5 V_7 W_{107}$$

$$ET_1 = T_{20} AT_{16} AT_{17} AT_{18} AT_{20} PT_9 PT_{10} PT_{11} PT_{12} FL_3 FL_4$$

TEST FACILITY DESCRIPTION

The Arnold Engineering Development Center (AEDC) is an Air Force Facility located in Tullahoma, Tennessee. Tunnel B is a continuous, closed circuit, variable density wind tunnel with an axisymmetric contoured nozzle and a 50-inch diameter test section. The tunnel can be operated at a nominal Mach number of 6 or 8 at stagnation pressures from 20 to 300 and 50 to 900 psia, respectively, and at a stagnation temperature of up to 1350°R. The model may be injected into the tunnel for a test run and then retracted for model cooling or model changes without interrupting the tunnel flow.

TEST PROCEDURE

The test was conducted to obtain data for use in a separation trajectory computer program. The test program was, therefore, designed to produce data for a grid of linear and angular displacements of the ET relative to the Orbiter, for various initial conditions of the combined vehicles. In general ΔZ (vertical distance of the ET nose from its mated position) was the basic variable, a basic group consisting of a series of ΔZ values at a single value combination of the other variables.

The initial relative positions of the Orbiter and external tank were established prior to testing by physical measurements. The linear and angular movement of the ET on the CTS was controlled by the CTS computer which compensated for balance and sting deflections.

DATA REDUCTION

Data were reduced about body and stability axes systems using the following reference dimensions:

Orbiter data:

reference area	2690.0 ft. ²
reference M.A.C.	1290.3 in.
reference span	1290.3 in.
moment reference point	
X_o	= 1089.6 in.
Y_o	= 0.0 in.
Z_o	= 375.0 in.

Tank data:

reference area	2690.0 ft. ²
reference M.A.C.	1290.3 in.
reference span	1290.3 in.
moment reference point	
X_T	= 1360.1 in.
Y_T	= 0.0 in.
Z_T	= 416.4 in.

MRP locations are also shown in figures 2a and b. Orbiter-tank separation distances are as defined in figure 1b.

TABLE I.

TEST : IA17A			DATE : 3/15/74
TEST CONDITIONS			
MACH NUMBER	REYNOLDS NUMBER (per ft)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
5.93	1.973×10^6	1.575	335
7.98	1.921	1.947	805
7.98	1.753	1.708	812
7.98	1.669	1.626	812
7.98	1.431	1.392	832

Orbiter (Groups 1-454), Balance 4.00-Y-36-050

<u>Balance Component</u>	<u>Design Load</u>	<u>Range of Static Loads</u>	<u>Measurement Uncertainty</u>
Normal force, lb	200	± 50	± 0.5
Side force, lb	100	± 25	± 0.1
Axial force, lb	50	10	± 0.1
Pitching moment, in.-lb	680	± 100	± 0.8
Yawing moment, in.-lb	300	± 50	± 0.3
Rolling moment, in.-lb	100	± 10	± 0.05

Orbiter (Groups 455-997), Balance No. 4.00-Y-36-048

<u>Balance Component</u>	<u>Design Load</u>	<u>Range of Static Loads</u>	<u>Measurement Uncertainty</u>
Normal force, lb	300	± 50	± 0.3
Side force, lb	100	± 25	± 0.15
Axial force, lb	50	10	± 0.1
Pitching moment, in.-lb	1020	± 100	± 0.6
Yawing moment, in.-lb	340	± 50	± 0.4
Rolling moment, in.-lb	100	± 10	± 0.04

External Tank, Balance No. 4.00-Y-36-049

<u>Balance Component</u>	<u>Design Load</u>	<u>Range of Static Loads</u>	<u>Measurement Uncertainty</u>
Normal force, lb	200	± 50	± 0.3
Side force, lb	200	± 25	± 0.2
Axial force, lb	100	10	± 0.1
Pitching moment, in.-lb	680	± 100	± 0.5
Yawing moment, in.-lb	680	± 50	± 0.3
Rolling moment, in.-lb	100	± 20	± 0.07

Loads and Uncertainties with respect to Balance Center

TABLE II.

TEST: AEDC VA422 (IA17A)			DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 3/15/74				
DATA SET IDENTIFIER	CONFIGURATION	SCHD.	PARAMETERS/VALUES										NO. OF RUNS	ΔX, in. full scale			
			ΔY	ΔZ	α ₀	β ₀	Δα	Δβ	M	δ _a	δ _e	GRID		0	200	400	
*RTR001	O ₁ + ET ₁	0	A	0	0	0	0	5.93	0	0			1		56	57	58
02			B			-5									62	63	
03			C			-10									64	65	66
04			D			-15									70	71	72
05			E			-20							↓		73	74	75
06			K			-20							26		380		
07			J		↓	-20							26		381	372	373
08			A		3	0							3		149	112	
09			G			-5									115	116	
10			H			-10									117	118	119
11			I			-15									123	124	125
12			A			0									111		
13			J	↓	↓	0							↓		130	126	127
14			A	5	0	0							5		199	200	201
15			G			-5									205	206	
16			H			-10									207	208	209
17			I		↓	-15									213	214	215
↓ 19	↓	↓	J	↓	3	-20	↓	↓	↓	↓			↓		220	216	217
1 7 13 19 25 31 37 43 49 55 61 67 75 76																	
C N CA CLM CY CYN KBL XCP/L ICPB1 ICPB2 ICPBC DLT-X DLT-Z																	
COEFFICIENTS IDVAR (1) IDVAR (2) NDV																	
α OR β A(ΔZ) = 20, 100, 200, 300, 400, 500, 600 C(ΔZ) = 400, 500, 600, 800																	
SCHEDULES B(ΔZ) = 200, 300, 400, 500, 600, 800 D(ΔZ) = 500, 600, 800																	

*FOR ALL CONFIGURATIONS: RTRXXX REFERS TO O₁ BALANCE DATA
 ATRXXX REFERS TO ET₁ BALANCE DATA

TABLE II. (Continued)

TABLE II. (Continued)											DATE: 3/15/74								
TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY																	
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale				
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400		
RTR020	O ₁ +ET ₁	0	A	5	3	0	0	5.93	0	0				4		161	162		
21			G			-5										165	166		
22			H			-10										167	168	169	
23			I			-15										173	174	175	
25			J	Y	Y	-20							↓			180	176	177	
26			A	-5	0	0							6			239	240	241	
27			L			-5										245	246		
28			H			-10										247	248	249	
29			I			-15										253	254	255	
31			J		↓	-20							↓			260	256	257	
32			A		3	0							7			279	280		
33			L			-5										283	284		
34			H			-10										285	286	287	
35			I			-15										291	292	293	
37			J	↓		-20							↓			298	294	295	
38			M	-10		0							8			318	319		
39			L			-5										322	323		
↓ 40	↓	↓	N	↓	↓	-10	↓	↓	↓	↓			↓			324	325	326	
		7	13	19	25	31	37	43	49	55	61	67	75 76						
α OR β SCHEDULES		COEFFICIENTS											IDVAR (1) IDVAR (2) NDV						
E(ΔZ) = 800, 1000													H(ΔZ) = 400, 500, 600, 750, 800						
G(ΔZ) = 200, 300, 400, 500, 600, 750, 800													I(ΔZ) = 500, 600, 750, 800						

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)				DATA SET/RUN NUMBER COLLATION SUMMARY												DATE: 3/15/74				
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX, in. full scale					
		ΔY	ΔZ	α ₀	β ₀	Δα	Δβ	M	δ _a	δ _e			GRID		0	200	400			
RTR041	O ₁ +ET ₁	0	P	-10	3	-15	0	5.93	0	0				8		330	331	332		
42		T	M		0	0								9		344	345	346		
43			L			-5										350	351			
44			N			-10										352	353	354		
45			P			-15							↓	↓		358	359	360		
46			M			0							-20	10		387		388		
47			N	Y		-10								10		389		390		
48			A	-5		0								11		396		397		
49			H			-10										398		399		
51			J	↓		-20								↓		406		400		
52			A	5		0								12		409		410		
53			H			-10										411		412		
55			J	↓	↓	-20								↓		419		413		
56			A	0	0	0								13		422		423		
57			H			-10										424		425		
59			J		↓	-20								↓		432		426		
60			A		3	0								14		435				
↓ 61	↓	↓	H	↓	3	-10	↓	↓	↓	↓				14		436				
		7	13	19	25	31	37	43	49	55	61	67	75	76						
α OR β		COEFFICIENTS													IDVAR (1)				IDVAR (2)	NDV
SCHEDULES		J(ΔZ) = 750, 800, 900, 1000													L(ΔZ) = 200, 300, 400, 500, 600					
		K(ΔZ) = 800, 900, 1000													M(ΔZ) = 30, 100, 200, 300, 400, 500					

TABLE II, (Continued)

TEST : AEDC VA422 (IA17A)			DATA SET/RUN NUMBER COLLATION SUMMARY											DATE : 3/15/74					
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX, in. full scale				
		ΔY	ΔZ	α ₀	β ₀	Δα	Δβ	M	δ _a	δ _e			GRID		0	200	400		
RTRD62	O, +ET,	0	K	0	3	-20	0	5.93	0	-20				14		437			
63			A			0				-40						450			
64			H			-10										451			
65			K		↓	-20							↓			452			
66			A		0	0							13			595		596	
67			H			-10										597		598	
69			J	↓		-20							↓			600		599	
70			A	5		0							12			608		609	
71			H			-10										610		611	
73			J	↓		-20							↓			613		612	
74			A	-5		0							11			621		622	
75			H			-10										623		624	
77			J	↓		-20							↓			626		625	
78			M	-10		0							10			634		635	
79			N	-10	↓	-10			↓	↓			10			636		637	
80			A	0	3	0			+15	+15L -15R			14			462			
81			H			-10										463			
↓ 82	↓	↓	K	↓	↓	-20	↓	↓	↓	↓			↓			464			

7131925313743495561677576

α OR β SCHEDULES

N(ΔZ)=400,500,600,700,800

P(ΔZ)=500,600,700,800

COEFFICIENTS

IDVAR (1) IDVAR (2) NDV

R(ΔZ)=200,300,400,500,600,700,800

T(ΔZ)=20,100,200,300,400,500

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)			DATA SET/RUN NUMBER COLLATION SUMMARY												DATE: 3/15/74			
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale			
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δa	δe			GRID		0	200	400	
RTR083	$O_1 + ET_1$	D	A	0	0	0	0	5.93	+15	+15L -15R				13	469		470	
084		T	H	T	T	-10	T	T	T	T				T	471		472	
086			J	V	T	-20								V	479		473	
087			A	5	T	0								12	482		483	
088			H	T	T	-10								T	484		485	
090			J	V	T	-20								V	492		486	
091			A	-5	T	0								11	495		496	
092			H	T	T	-10								T	497		498	
094			J	V	T	-20								V	505		499	
095			M	-10	T	0								10	521		522	
096			N	-10	V	-10			V	V				10	523		524	
097			A	0	3	0			C	+15				14	581			
098			H	T	T	-10			T	T				T	582			
099			K	T	V	-20								V	583			
100			A	T	0	0								13	568		569	
101			H	T	T	-10								T	570		571	
103			J	V	T	-20								V	578		572	
✓ 104	✓	✓	A	5	V	0	V	V	V	V				12	555		556	
		1	7	13	19	25	31	37	43	49	55	61	67	75	76			
α OR β		COEFFICIENTS																
SCHEDULES		IDVAR (1) IDVAR (2) IDV																
$U(\Delta Z) = 400, 500, 600$																		

TEST RUN NUMBERS

 $u(\Delta Z) = 400, 500, 600$

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)				DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 3/15/74				
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale			
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400	
RTR105	O, +ET,	O	H	5	0	-10	0	5.93	0	+15				12		557		558
107		J	J	5		-20								12		565		559
108		A	A	-5		0								11		542		543
109		H	H			-10										544		545
111		J	J			-20								↓		552		546
112		M	M	-10		0								10		533		534
113		N	N	↓		-10						↓		10		535		536
114		R	R	10		-5				0				23		643	644	
115		N	N			-10										645	646	647
116		P	P			-15										651	652	653
117		K	K		↓	-20							↓			654	655	656
118		R	R		3	-5							27			673	674	
119		N	N			-10										675	676	677
120		P	P			-15										681	682	683
121		K	K	↓	↓	-20		↓					↓			684	685	686
122		T	T	0	0	0		7.98					16			717	718	
123		L	L			-5										721	722	
↓ 124		↓ H	↓ H	↓	↓	-10	↓	↓	↓	↓			↓			723	724	725
		1	7	13	19	25	31	37	43	49	55	61	67	75	76			
		COEFFICIENTS										IDVAR (1)		IDVAR (2)	NDV			
α OR β SCHEDULES																		

TEST RUN NUMBERS

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale				
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e	P_0		GRID		0	200	400		
RTR125	0 ₁ + ET ₁	0	I	0	0	-15	0	7.98	0	0	-		16		729	730	731		
127		T	J	T	T	-20	T	T	T	T	-		T		736	732	733		
128			T			0						300	T		868	869			
129			L			-5						T			872	873			
130			H		↓	-10						↓	↓		874	875	876		
131			T		3	0						420	17		747	748			
132			L			-5						T	T		751	752			
133			H			-10							T		753	754	755		
134			I			-15							T		759	760	761		
136			J	↓		-20							↓		766	762	763		
137			T	5		0							25		807	808			
138			L	T		-5							T		811	812			
139			U			-10									813	814	815		
140			I			-15							T		818	820	821		
142			J	↓		-20							↓		826	822	823		
143			T	-5		0							18		838	839			
144			L	T		-5							T		842	843			
↓ 145	↓	↓	U	↓	↓	-10	↓	↓	↓	↓	↓		↓		844	845	846		
		7	13	19	25	31	37	43	49	55	61	67	75 76						
		COEFFICIENTS											IDVAR (1) IDVAR (2) NCV						
α OR β																			
SCHEDULES																			

TEST RUN NUMBERS

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74							
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale					
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e	P_0		GRID		0	200	400			
RTR 146	$O_1 + ET_1$	0	I	-5	3	-15	0	7.98	0	0	420		18		850	851	852			
148			J	-5	3	-20			0	0	370		18		857	853	854			
149			T	0	0	0			+15	+15 -15R	300		21		887					
150			H			-10									888					
151			K	✓		-20							✓		889					
152			T	-5		0							20		891					
153			U			-10									892					
154			K	✓		-20			✓	✓			✓		893					
155			T	0		0			0	-20			21		903					
156			H			-10									904					
157			K	✓		-20							✓		905					
158			T	-5		0							20		899					
159			U			-10									900					
160			K	✓		-20				✓			✓		901					
161			T	0		0				-40			21		914					
162			H			-10									915					
163			K	✓		-20							✓		916					
✓ 164	✓	✓	T	-5	✓	0	✓	✓	✓	✓	✓		20		918					
		7	13	19	25	31	37	43	49	55	61	67	75	76						
COEFFICIENTS																		IDVAR (1)	IDVAR (2)	NDV
α OR β																				
SCHEDULES																				

TEST RUN NUMBERS

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74					
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX, in. full scale			
		ΔY	ΔZ	α ₀	β ₀	Δα	Δβ	M	δ _a	δ _e	P ₀	GRID	0		200	400		
RTR165	O, +ET,	0	U	-5	0	-10	0	7.98	0	-40	300		20	919				
166		T	K	-5	0	-20							20	920				
167			M	-10	3	0							8	922	923			
168			L	T		-5								926	927			
169			N			-10								928	929	930		
170			P	↓	↓	-15								934	935	936		
171			T	-5	0	0								938	939			
172			L	T		-5								942	943			
173			U			-10								944	945	946		
174			T			-15								950	951	952		
176			J	↓		-20						↓		957	953	954		
177			T	5		0						24		968	969			
178			L	T		-5								972	973			
179			U			-10								974	975	976		
180			I			-15								980	981	982		
↓ 182	↓	↓	J	↓	↓	-20	↓	↓	↓	↓	↓	↓		987	983	984		

7 13 19 25 31 37 43 49 55 61 67 75 76

α OR β
COEFFICIENTS
IDVAR (1)
IDVAR (2)
NDV

SCHEDULES

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale				
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400		
RTR201	O ₁ +ET ₁	60	A	0	0	0	0	5.93	0	0				1		61	60	59	
202			C			-10										69	68	67	
203			E			-20										78	77	76	
205			J			-20	↓									382	375	374	
206			A			0	3									91	92		
207			C			-10										85	86	87	
208			E			-20										79	80	81	
210			J		↓	-20	↓						↓			383	376	377	
211			A		3	0	0						3			114	113		
212			H			-10										122	121	120	
214			J			-20	↓									131	129	128	
215			A			0	3									156	157		
216			H			-10										150	151	152	
218			J	↓	↓	-20	↓						↓			136	132	133	
219			A	5	0	0	0						5			204	203	202	
220			H			-10										212	211	210	
222			J			-20	↓									221	219	218	
↓ 223	↓	↓	A	↓	↓	0	3	↓	↓	↓			↓			234	235		
		1 7 13 19 25 31 37 43 49 55 61 67 75 76																	
		COEFFICIENTS IDVAR (1) IDVAR (2) NDV																	
α OR β																			
SCHEDULES																			

TEST RUN NUMBERS

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale				
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400		
RTR224	O, + ET,	60	H	5	0	-10	3	5.93	0	0				5		228	229	230	
226			J		0	-20	3							5		226	222	223	
227			A		3	0	0							4		164	163		
228			H			-10										172	171	170	
230			J			-20	↓									181	179	178	
231			A			0	3									194	195		
232			H			-10										188	189	190	
234			J	↓	↓	-20	↓						↓			186	182	183	
235			A	-5	0	0	0							6		244	243	242	
236			H			-10										252	251	250	
238			J			-20	↓									261	259	258	
239			A			0	3									274	275		
240			H			-10										268	269	270	
242			J		↓	-20	↓						↓			266	262	263	
243			A		3	0	0							7		282	281		
244			H			-10										290	289	288	
246			J			-20	↓									299	297	296	
↓ 247	↓	↓	A	↓	↓	0	3	↓	↓	↓			↓			312	313		
		7	13	19	25	31	37	43	49	55	61	67	75	76					
		COEFFICIENTS													IDVAR (1)		IDVAR (2)	NDV	
α OR β																			
SCHEDULES																			

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 3/15/74

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale				
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400		
RTR248	$O_1 + ET_1$	60	H	-5	3	-10	3	5.93	0	0				7		306	309	308	
250			J	-5		-20	3							7		304	300	301	
251			M	-10		0	0							8		321	320		
252			N			-10	0									329	328	327	
253			M			0	3									339	340		
254			N		↓	-10	3						↓			333	334	335	
255			M		0	0	0						9			349	348	347	
256			N			-10	0									357	356	355	
257			M			0	3									367	368		
258			N			-10				↓			↓			361	362	363	
259			M			0				-20			10			393		394	
260			N	↓		-10							10			391		392	
261			A	-5		0							11			404		405	
262			H			-10										402		403	
264			J	↓		-20							↓			407		401	
265			A	5		0							12			417		418	
266			H			-10										415		416	
↓ 268	↓	↓	J	↓	↓	-20	↓	↓	↓	↓			↓			420		414	
1 7 13 19 25 31 37 43 49 55 61 67 75 76																			
COEFFICIENTS															IDVAR (1) IDVAR (2) IDV				
α OR β SCHEDULES																			

TEST RUN NUMBERS

TABLE II. (Continued)

TEST : AEDC VA422 (IA17A)				DATA SET/RUN NUMBER COLLATION SUMMARY										DATE : 3/15/74							
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale						
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400				
RTR269	O ₁ +ET ₁	60	A	0	0	0	3	5.93	0	-20				13		430		431			
270			H			-10										428		429			
272			J		✓	-20								✓		433		427			
273			A		3	0								14		440					
274			H			-10										439					
275			K			-20										438					
277			H			-10										454					
278			K		✓	-20								✓		453					
279			A		0	0								13		605		606			
280			H			-10										603		604			
282			J	✓		-20								✓		601		602			
283			A	5		0								12		618		619			
284			H			-10										616		617			
286			J	✓		-20								✓		614		615			
287			A	-5		0								11		631		632			
288			H			-10										629		630			
290			J	✓		-20								✓		627		628			
✓ 291	✓	✓	M	-10	✓	0	✓	✓	✓	✓				10		640		641			
		7	13	19	25	31	37	43	49	55	61	67	75	76							
COEFFICIENTS																			IDVAR (1)	IDVAR (2)	NDV
α OR β																					
SCHEDULES																					

TEST RUN NUMBERS

TABLE II. (Continued)

TABLE 11. (continued)

TEST: AEDC VA422 (IA17A)

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 3/15/74

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale			
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e			GRID		0	200	400	
RTR292	0, +ET,	60	N	-10	0	-10	3	5.93	0	-40				10	638		639	
293			A	0	3	0			+15	+15L -15R				14	467			
294			H			-10									466			
295			K			-20									465			
296			A		0	0								13	477		478	
297			H			-10									475		476	
299			J			-20									480		474	
300			A	5		0								12	490		491	
301			H			-10									488		489	
303			J			-20									493		487	
304			A	-5		0								11	503		504	
305			H			-10									501		502	
307			J			-20									506		500	
308			M	-10		0								10	519		520	
309			N	-10		-10								10	517		518	
310			A	0	3	0			0	15				14	586			
311			H			-10									585			
✓ 312	✓	✓	K	✓	✓	-20	✓	✓	✓	✓			✓		584			

71319253137434955616775 76

COEFFICIENTS

IDVAR (1)IDVAR (2)NDV

α OR β

SCHEDULES

TABLE II. (Continued)

TABLE 11. (Continued)												DATE: 3/15/74							
TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY																	
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX, in. full scale				
		ΔY	ΔZ	α ₀	β ₀	Δα	Δβ	M	δ _a	δ _e	P ₀	GRID	0		200	400			
RTK313	0, +ET,	60	A	0	0	0	3	5.93	0	15	—	13		576		577			
314			H			-10								574		575			
316			J	↓		-20						↓		579		573			
317			A	5		0						12		563		564			
318			H			-10								561		562			
320			J	↓		-20						↓		566		560			
321			A	-5		0						11		550		551			
322			H			-10								548		549			
324			J	↓		-20						↓		553		547			
325			M	-10		0						10		539		540			
326			N	↓		-10	↓			↓		10		537		538			
327			N	10		-10	0			0		23		650	649	648			
328			K			-20	0							659	658	657			
329			N			-10	3							666	667	668			
330			K		↓	-20	3				↓	↓		660	661	602			
331			N		3	-10	0				94	27		680	679	678			
332			K			-20	0							689	688	687			
↓ 333	↓	↓	N	↓	↓	-10	3	↓	↓	↓	↓	↓		696	697	698			
		1	7	13	19	25	31	37	43	49	55	61	67	75	76				
COEFFICIENTS																	IDVAR (1)	IDVAR (2)	NCV
α OR β																			
SCHEDULES																			

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)				DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 3/15/74				
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale			
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e	P_0	GRID	0		200	400		
RTR334	O _i +ET _i	60	K	10	3	-20	3	5.93	0	0	94	27		690	691	692		
335			T	0	0	0	0	1.98			420	16		720	719			
336			H			-10								728	727	726		
338			J			-20	↓							737	735	734		
339			T			0	3							744	745			
340			H			-10	↓							741	742	743		
342			J			-20	↓				↓			740	738	739		
343			T			0	0				300			871	870			
344			H		↓	-10	↓				300	↓		879	878	877		
345			T		3	0					420	17		750	749			
346			H			-10								758	757	756		
348			J			-20	↓							767	765	764		
349			T			0	3							774	775			
350			H			-10	↓							771	772	773		
352			J	↓		-20	↓					↓		770	768	769		
353			T	5		0	0					25		810	809			
354			U			-10	↓							818	817	816		
356			J	↓	↓	-20	↓	↓	↓	↓	↓	↓		827	825	824		

17131925313743495561677576

COEFFICIENTS

α OR β

SCHEDULES

IDVAR (1)

IDVAR (2)

NDV

TEST RUN NUMBERS

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)				DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74					
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale					
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e	P_0	GRID	0		200	400				
RTR357	<u>O₁ + ET₁</u>	60	T	5	3	0	3	798	0	0	420		25		834	835				
358			U			-10									831	832	833			
360			J	↓		-20	↓						↓		830	828	829			
361			T	-5		0	0						18		841	840				
362			U			-10					↓				849	848	847			
364			J			-20	↓				370				858	856	855			
365			T			0	3				300				865	866				
366			U			-10					300				862	863	864			
368			J			-20					350					859				
369			J	↓		-20	↓				300		↓		861		860			
370			M	-10		0	0						8		925	924				
371			N	-10	↓	-10							8		933	932	931			
372			T	-5	0	0							19		941	940				
373			J			-10									949	948	947			
375			J			-20	↓								958	956	955			
376			T			0	3								965	966				
377			U			-10									962	963	964			
↓ 379	↓	↓	J	↓	↓	-20	↓	↓	↓	↓	↓	↓	↓		961	959	960			
		1	7	13	19	25	31	37	43	49	55	61	67	75	76					
COEFFICIENTS																		IDVAR (1)	IDVAR (2)	NCV
α OR β																				
SCHEDULES																				

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 3/15/74

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale			
		ΔL	LZ	d_o	β_o	$\Delta\alpha$	$\Delta\beta$	M	δ_a	δ_e	P_o	GRID	0		200	400		
RTR380	O ₁ +ET ₁	60	T	5	0	0	0	7.98	0	0	300	24		971	970			
381			U			-10								979	978	977		
383			J			-20	↓							988	986	985		
384			T			0	3							995	996			
385			U			-10								992	993	994		
387		↓	J	↓		-20		↓			↓	↓		991	989	990		
401		200	A	0		0		5.93			—	1		94	93			
402			C	T		-10					—			90	89	88		
403			E			-20						↓		84	83	82		
405			J		↓	-20						26		384	379	378		
406			A		3	0						3		159	158			
407			H			-10								155	154	153		
409			J	↓	↓	-20						↓		137	135	134		
410			A	5	0	0						5		237	236			
411			H	T		-10								233	232	231		
413			U		↓	-20						↓		227	225	224		
414			A		3	0						4		197	196			
↓ 415	↓	↓	H	↓	3	-10	↓	↓	↓	↓	↓	4		193	192	191		

17131925313743495561677576

α OR β

SCHEDULES

COEFFICIENTS

IDVAR (1)IDVAR (2)NCV

TABLE II. (Continued)

TEST: AEDC YA422 (IA17A)				DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 3/15/74				
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX, in. full scale			
		ΔY	ΔZ	α ₀	β ₀	Δα	Δβ	M	δ _a	δ _c			GRID		0	200	400	
RTR417	O, +ET _i	200	J	5	3	-20	3	5.93	0	0				4		187	185	184
418			A	-5	0	0								6		277	276	
419			H			-10										273	272	271
421			J		↓	-20								↓		267	265	264
422			A		3	0								7		315	314	
423			H			-10										311	310	309
425			J	↓		-20								↓		305	303	302
426			M	-10		0								8		342	341	
427			N		↓	-10								8		338	337	336
428			M			0	0							9		370	369	
429			N	↓		-10								9		366	365	364
430			N	10		-10								23		671	670	669
431			K		↓	-20								23		665	664	663
432			N		3	-10								27		701	700	699
↓ 433	↓	↓	K	↓	3	-20	↓	↓	↓	↓				27		695	694	693

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 3/15/74					
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	ΔX , in. full scale		
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e	P_0	GRID	2000*				
RTR501	0,	0	1000	0	0	0	0	5.93	0	0	—	1		101			
502				0	3	0	-3					3		160			
503				5	0	-5	0					5		238			
504				5	3	-5	-3					4		198			
505				-5	0	5	0					6		278			
506				-5	3	5	-3					7		316			
507				-10	3	10	-3					8		343			
508					0		0			↓		9		371			
509				↓		↓				-20		10		395			
510				-5		5						11		408			
511				5		-5						12		421			
512				0	↓	0	↓					13		434			
513					3		-3			↓	↓	14		441			
514				↓	0	↓	0			-40	94	13		607			
515				5		-5						12		620			
516				-5		5						11		633			
517				-10	↓	10	↓			↓	↓	10		642			
✓518	↓	↓	↓	0	3	0	-3	↓	↓	+15L -15R	—	14		468			
		7	13	19	25	31	37	43	49	55	61	67	75	76			
COEFFICIENTS																	
IDVAR (1) IDVAR (2) IDV																	
α OR β																	
SCHEDULES																	

TABLE II. (Continued)

TEST: AEDC VA422 (IA17A)			DATA SET/RUN NUMBER COLLATION SUMMARY											DATE: 3/15/74			
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	Δx , in. full scale		
		ΔY	ΔZ	α_0	β_0	$\Delta \alpha$	$\Delta \beta$	M	δ_a	δ_e	P_0	GRID	2000*				
RTR519	0 ₁	0	*1000	0	0	0	0	5.93	15	+15L -15R	—	13		481			
520				5		-5						12		494			
521				-5		5						11		507			
522				-10	↓	10	↓		↓	↓	↓	10		525			
523				0	3	0	-3		0	15	94	14		587			
524				0	0	0	0					13		580			
525				5		-5						12		567			
526				-5		5						11		554			
527				-10		10				↓		10		541			
528				10	↓	-10	↓			0		23		672			
529				10	3	-10	-3	↓			↓	27		702			
530				0	0	0	0	7.98			420	16		746			
531				0	3	0	-3				300	17		776			
532				5		-5					420	25		836			
533				-5	↓	5	↓		↓	↓	300	18		867			
534				0	0	0	0		15	+15L -15R		21		890			
535				-5		5			↓	↓		20		894			
↓ 536	↓	↓	↓	0	↓	0	↓	↓	0	-20	↓	21		906			
1 7 13 19 25 31 37 43 49 55 61 67 73 76																	
COEFFICIENTS															IDVAR (1)	IDVAR (2)	NDV
α or β																	
SCHEDULES																	

* $\Delta \alpha$ and $\Delta \beta$ are not meaningful for this isolated orbiter data and a dummy value of zero was used in these datasets.

TABLE II. (Continued)

[illegible]

* ΔX and ΔZ are not meaningful for this isolated orbiter data and a dummy value of zero was used in these datasets.

TABLE II. (Continued)

[illegible]

TABLE II. (Continued)

[illegible]

TABLE II. (Concluded)

[illegible]

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT₁₆

GENERAL DESCRIPTION: Forward orbiter/ET Attach Structure (2 member structure).

MODEL SCALE: 0.010

MODEL DRAWING: SS-A00117

DRAWING NO.: VL78-000062B, SK-H-4011

DIMENSIONS:	<u>MEMBER</u>		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
	#1	X _O	394.38	3.944
		Y _O	0.0	0.0
		Z _O	LWR ML	LWR ML
		X _T	1131.0	11.310
		Y _T	46.8	0.468
		Z _T	561.298	5.613
	#2	X _O	394.38	3.944
		Y _O	0.0	0.0
		Z _O	LWR ML	LWR ML
		X _T	1131.0	11.310
		Y _T	- 46.8	- 0.468
		Z _T	561.298	5.613
Diameter of Members:			5.70	0.057

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ATTACH STRUCTURE - AT₁₇

GENERAL DESCRIPTION: Left rear orbiter/ET attach structure (2 member structure)

MODEL SCALE: 0.010

MODEL DRAWING: SS-A00117

DRAWING NO.: VL78-000062B, SK-H-4013

DIMENSIONS:	<u>MEMBER</u>		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
	#1	X _O	1317.00	13.170
		Y _O	- 96.5	- 0.965
		Z _O	267.5	2.675
		X _T	2058.00	20.580
		Y _T	- 125.827	- 1.258
		Z _T	515.00	5.150
	#2	X _O	1317.00	13.170
		Y _O	- 96.5	- 0.965
		Z _O	267.5	2.675
		X _T	2058.00	20.580
		Y _T	- 125.827	- 1.258
		Z _T	515.5	5.155
Diameter of Members:	#1		11.5	0.115
	#2		15.5	0.155

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ATTACH STRUCTURE - AT₁₈

GENERAL DESCRIPTION: Right rear orbiter/ET attach structure (3 member structure)

MODEL SCALE: 0.010

MODEL DRAWING: SS-A00117

DIMENSIONS:	MEMBER		FULL SCALE	MODEL SCALE
	#1	X _O	1317.00	13.170
		Y _O	96.5	0.965
		Z _O	267.5	2.675
		X _T	1872.0	18.720
		Y _T	125.827	1.258
		Z _T	515.5	5.155
	#2	X _O	1317.0	13.170
		Y _O	96.5	0.965
		Z _O	267.5	2.675
		X _T	2058.0	20.580
		Y _T	125.827	1.258
		Z _T	515.5	5.155
	#3	X _O	1317.0	13.170
		Y _O	54.40	0.544
		Z _O	19.30	0.193
		X _T	2058.0	20.580
		Y _T	2.5	0.025
		Z _T	567.6	5.676
Diameter of Members, In.:	#1		15.5	0.155
	#2		11.5	0.115
	#3		4.5	0.045

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ATTACH STRUCTURE - AT₂₀

GENERAL DESCRIPTION: Aft SRB/ET attach structure (3 member structure)

MODEL SCALE: 0.010

MODEL DRAWING: SS-A00117

DRAWING NO.: VL78-000062B, VL72-000140; VL72-000115

DIMENSIONS:	MEMBER		FULL SCALE	MODEL SCALE
	#1	X _B	1317.00	13.170
		Y _B	± 57.0	± 0.570
		Z _B		
		Z _T	457.00	4.570
	#2	X _B	1317.00	13.170
		X _T	2058.00	20.580
	#3	X _B	1317.00	13.170
		Y _B	± 57.0	± 0.570
		X _T	2058.00	20.580
		Z _T	343.00	3.430
Diameter of Members, In.:			6.0	0.060

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: BODY - B₁₉

GENERAL DESCRIPTION: Fuselage, Configuration 3, per Rockwell Lines

Drawing VL70-000139B

NOTE: Identical to B17 except forebody

MODEL SCALE: .010

DRAWING NUMBER: VL70-000139B

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>1290.3</u>	<u>12.903</u>
Max. Width - In.	<u>267.6</u>	<u>2.676</u>
Max. Depth - In.	<u>244.5</u>	<u>2.445</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - Ft ²		
Max. Cross-Sectional	<u>386.67</u>	<u>0.03867</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: CANOPY - C₇

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

MODEL SCALE: 0.010

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0 = 433$ to $X_0 = 670$) in. FS	<u>237</u>	<u>2.370</u>
Max. Width	<u> </u>	<u> </u>
Max. Depth ($Z_0 =$ to $Z_0 = 501$) - in. FS	<u> </u>	<u> </u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ELEVON - E₂₃

GENERAL DESCRIPTION: Configuration 3 per W107 Rockwell Lines Drawing

VL70-000139B data for (1) of (2) sides

MODEL SCALE: 0.010

DRAWING NUMBER: VL70-000139B

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Area - ft ²	<u>205.52</u>	<u>0.02055</u>
Span (equivalent) - in.	<u>353.34</u>	<u>3.533</u>
Inb'd equivalent chord	<u>114.78</u>	<u>1.148</u>
Outb'd equivalent chord	<u>55.00</u>	<u>0.550</u>
Ratio movable surface chord/total surface chord		
At inb'd equiv. chord	<u>0.208</u>	<u>0.208</u>
At outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep-back angles, degrees		
Leading edge	<u>0.00</u>	<u>0.00</u>
Trailing Edge	<u>- 10.24</u>	<u>- 10.24</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to Hingeline) - ft ³ (Product of Area Moment)	<u>1548.07</u>	<u>0.001548</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: BODY FLAP - F₅

GENERAL DESCRIPTION: Body flap for fuselage B₁₉

MODEL SCALE: 0.015

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>84.70</u>	<u>0.8470</u>
Max. Width - In.	<u>267.6</u>	<u>2.676</u>
Max. Depth - In.	<u> </u>	<u> </u>
Fineness Ratio	<u> </u>	<u> </u>
Area - ft ²	<u> </u>	<u> </u>
Max. cross-sectional	<u>142.5195</u>	<u>0.01425</u>
Wetted	<u> </u>	<u> </u>
Base	<u>38.0958</u>	<u>0.00380958</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: FEEDLINE - FL₃

GENERAL DESCRIPTION: LOX Feedline between ET and orbiter.

MODEL SCALE: 0.010

MODEL DRAWING: SS-A00117

DRAWING NO.: VL78-000062, VL72-000131

DIMESIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Centerline at:	X _T	2017.50	20.175
	Y _T	70.00	0.700
	X _O	1330.50	13.305
	Y _O	70.00	0.700
Diameter:		18.80	0.188

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: FEEDLINE - FL₄

GENERAL DESCRIPTION: LH₂ feedline between ET and orbiter.

MODEL SCALE: 0.010

MODEL DRAWING NO.: SS-A00117

DRAWING NO.: VL78-000062, VL72-000131

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Centerline at:	X _T	2017.50	20.175
	Y _T	- 70.00	- 0.700
	X _T	1330.50	13.305
	Y _T	- 70.00	- 0.700
Diameter		18.80	0.188

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: OMS Pod - M₄

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

NOTE: M₄ identical to M₃ except intersection to fuselage.

MODEL SCALE: 0.010

DRAWING NUMBER: VL70-000139

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>346.0</u>	<u>3.460</u>
Max. Width - In.	<u>108.0</u>	<u>1.080</u>
Max. Depth - In.	<u>113.0</u>	<u>1.130</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: NOZZLES - N8GENERAL DESCRIPTION: Basic OMS Nozzle of Configuration 2A per Rockwell Lines

VL70-008306 and VL70-000089"B". Intersection of nozzle exit plane and
nozzle centerline at $X_0 = 1570.75$, $Y_0 = \pm 99.25$, $Z_0 = 507.25$

MODEL SCALE = 0.010DRAWING NO. VL70-008306, VL70-000089"B", SS-A00092

<u>DIMENSIONS</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Mach No. _____		
Length ~ in.		
Gimbal Point to Exit Plane	_____	_____
Throat to Exit Plane	_____	_____
Diameter ~ in.		
Exit	<u>50.00</u>	<u>0.500</u>
Throat	<u>N/A</u>	<u>N/A</u>
Inlet	<u>28.00</u>	<u>0.280</u>
Area ~ ft ² ./Nozzle		
Exit	<u>13.635</u>	<u>0.00136</u>
Throat	_____	_____
Gimbal Point (station) ~ in.		
X	<u>1518.0</u>	<u>15.180</u>
Y	<u>±88.0</u>	<u>0.880</u>
Z	<u>492.0</u>	<u>4.920</u>
Null Position ~ deg.		
Pitch	<u>15°49'</u>	<u>15°49'</u>
Yaw (Outb'd)	<u>±12°17'</u>	<u>±12°17'</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: MPS NOZZLES - N 24GENERAL DESCRIPTION: Configuration 3A MPS NozzlesMODEL SCALE = 0.010DRAWING NO. VL70-000140A, VL70-005030ADIMENSIONS

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Mach No. _____		
Length ~ in.		
Gimbal Point to Exit Plane	_____	_____
Throat to Exit Plane	_____	_____
Diameter ~ in.		
Exit	<u>91.000</u>	<u>0.910</u>
Throat	_____	_____
Inlet	_____	_____
Area ~ ft ² . /Nozzle		
Exit	<u>45.16585</u>	<u>0.00452</u>
Throat	_____	_____
Gimbal Point (station) ~ in.		
Upper Nozzle		
X	<u>14.45</u>	<u>14.450</u>
Y	<u>0</u>	<u>0</u>
Z	<u>4.43</u>	<u>4.430</u>
Lower Nozzles		
X	<u>1468.16996</u>	<u>14.68170</u>
Y	<u>+53.00000</u>	<u>+0.530</u>
Z	<u>342.63988</u>	<u>3.42640</u>
Null Position ~ deg.		
Upper Nozzle		
Pitch	<u>16°</u>	<u>16°</u>
Yaw	<u>0°</u>	<u>0°</u>
Lower Nozzles		
Pitch	<u>10°</u>	<u>10°</u>
Yaw (outb'd)	<u>3.5°</u>	<u>3.5°</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE - PT₉

GENERAL DESCRIPTION: LOX Vent line fairing on tank, T₂₀, nose.

MODEL SCALE: 0.010

MODEL DRAWING: SS-A00117

DRAWING NO.: VL78-000062

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	350.9	3.509
	Y _T	0.00	0.0
Trailing edge at:	X _T	959.7	9.597
	Y _T	60.00	0.600

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE - PT₁₀

GENERAL DESCRIPTION: LOX Feedline fairing on tank, T₂₀, tank secured to tank.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000062

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	985.7	9.857
	Y _T	- 70.0	- 0.700
Trailing edge at:	X _T	2071.50	20.715
	Y _T	- 70.00	- 0.700

Centerline of LOX feedline located radially at $\phi = 23.5^\circ$

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE - PT₁₁

GENERAL DESCRIPTION: LH₂ feedline fairing on T₂₀ tank secured to tank.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000031A

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	985.70	9.857
	Y _T	70.00	0.700
Trailing edge at:	X _T	2071.50	20.715
	Y _T	70.00	0.700

Centerline of LH₂ feedline radially located at $\phi = 34.5^\circ$

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ET PROTUBERANCE - PT₁₂

GENERAL DESCRIPTION: Lightning rod attached to ET nose.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000068A

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length	30.90	0.309
Diameter, In.	3.20	0.320

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RUDDER - R5

GENERAL DESCRIPTION: 2A, 3 and 3A Configuration per Rockwell Lines

VL70-000095

Model Scale = 0.010

DRAWING NUMBER: VL70-000095

DIMENSIONS:

	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - FT ²	<u>106.38</u>	<u>0.0106</u>
Span (equivalent) - IN.	<u>201.0</u>	<u>2.010</u>
Inb'd equivalent chord	<u>91.585</u>	<u>0.916</u>
Outb'd equivalent chord	<u>50.833</u>	<u>0.508</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Tailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hinge line)- FT ³	<u>526.13</u>	<u>0.000526</u>
Product of Area and Mean Chord		

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : EXTERNAL TANK - T₂₀

GENERAL DESCRIPTION : External oxygen-hydrogen tank.

MODEL SCALE: 0.010

DRAWING NUMBER : VL72-000131, VL78-000062

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length, In. (Nose @ $X_T=328.92$)	<u>1846.905</u>	<u>18.469</u>
Max Width, In. (@ $X_T = 975.675$)	<u>333.2</u>	<u>3.332</u>
Major Max Depth, In.	<u>330.2</u>	<u>3.302</u>
Fineness Ratio	<u>5.65713</u>	<u>5.65713</u>
Area - Ft ²	<u></u>	<u></u>
Max. Cross-Sectional (@ $X_T = 975.675$)	<u>605.534</u>	<u>0.0606</u>
Uniform Major cross section	<u>594.679</u>	<u>0.0595</u>
W.P. of Tank Centerline, Z, In. Wetdeck	<u>400.000</u>	<u>0.0400</u>
Base (On 330.2 Dia.)	<u>594.679</u>	<u>0.0595</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: VERTICAL - V₇GENERAL DESCRIPTION: Centerline vertical tail, double-wedge airfoil with rounded leading edge.NOTE: Same as V₆, but with manipulator housing removed.MODEL SCALE: 0.010

DRAWING NUMBER:

VL70-000139DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area (Theo) Ft ²	<u>425.92</u>	<u>0.0425</u>
Planform		
Span (Theo) In	<u>315.72</u>	<u>3.157</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep Back Angles, degrees		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.249</u>	<u>26.249</u>
0.25 Element Line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>2.685</u>
Tip (Theo) WP	<u>108.47</u>	<u>1.085</u>
MAC	<u>199.81</u>	<u>1.998</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>14.635</u>
W. P. of .25 MAC	<u>635.522</u>	<u>6.355</u>
B. L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil Section		
Leading Wedge Angle Deg	<u>10.000</u>	<u>10.000</u>
Trailing Wedge Angle Deg	<u>14.920</u>	<u>14.920</u>
Leading Edge Radius	<u>2.0</u>	<u>0.020</u>
Void Area	<u>13.17</u>	<u>0.131</u>
Blanketed Area	<u>0.00</u>	<u>0.00</u>

TABLE III. - MODEL DIMENSIONAL DATA - Concluded.

MODEL COMPONENT: WING-W 107GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139BNOTE: Same as W103, except cuff, airfoil and incidence angle.Model Scale = 0.010

TEST NO.

DWG. NO. VL70-000139B

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.) Ft^2

Planform

2690.00

0.2690

Span (Theo) In.

936.68

9.3668

Aspect Ratio

2.265

2.265

Rate of Taper

1.177

1.177

Taper Ratio

0.200

0.200

Dihedral Angle, degrees (@ TE of Elevon)

3.500

3.500

Incidence Angle, degrees

0.500

0.500

Aerodynamic Twist, degrees

+3.000

+3.000

Sweep Back Angles, degrees

45.000

45.000

Leading Edge

-10.24

-10.24

Trailing Edge

35.209

35.209

0.25 Element Line

Chords:

Root (Theo) B.P.O.O.

689.24

6.892

Tip, (Theo) B.P.

137.85

1.378

MAC

474.81

4.748

Fus. Sta. of .25 MAC

1136.89

11.3689

W.P. of .25 MAC

299.20

2.992

B.L. of .25 MAC

182.13

1.8213

EXPOSED DATA

Area (Theo) Ft^2

1752.29

0.1752

Span, (Theo) In. BP108

720.68

7.2068

Aspect Ratio

2.058

2.058

Taper Ratio

0.2451

0.2451

Chords

Root BP108

562.40

5.6240

Tip $1.00 \frac{b}{2}$

137.85

1.3785

MAC

393.03

3.9303

Fus. Sta. of .25 MAC

1185.31

11.8531

W.P. of .25 MAC

300.20

3.002

B.L. of .25 MAC

251.76

2.518

Airfoil Section (Rockwell Mod NASA)
XXXX-64Root $\frac{b}{2}$ =

0.10

0.10

Tip $\frac{b}{2}$ =

0.12

0.12

Data for (1) of (2) Sides

Leading Edge Cuff Ft^2

118.333

0.0118

Planform Area

500

5.00

Leading Edge Intersects Fus M. L. @ Sta

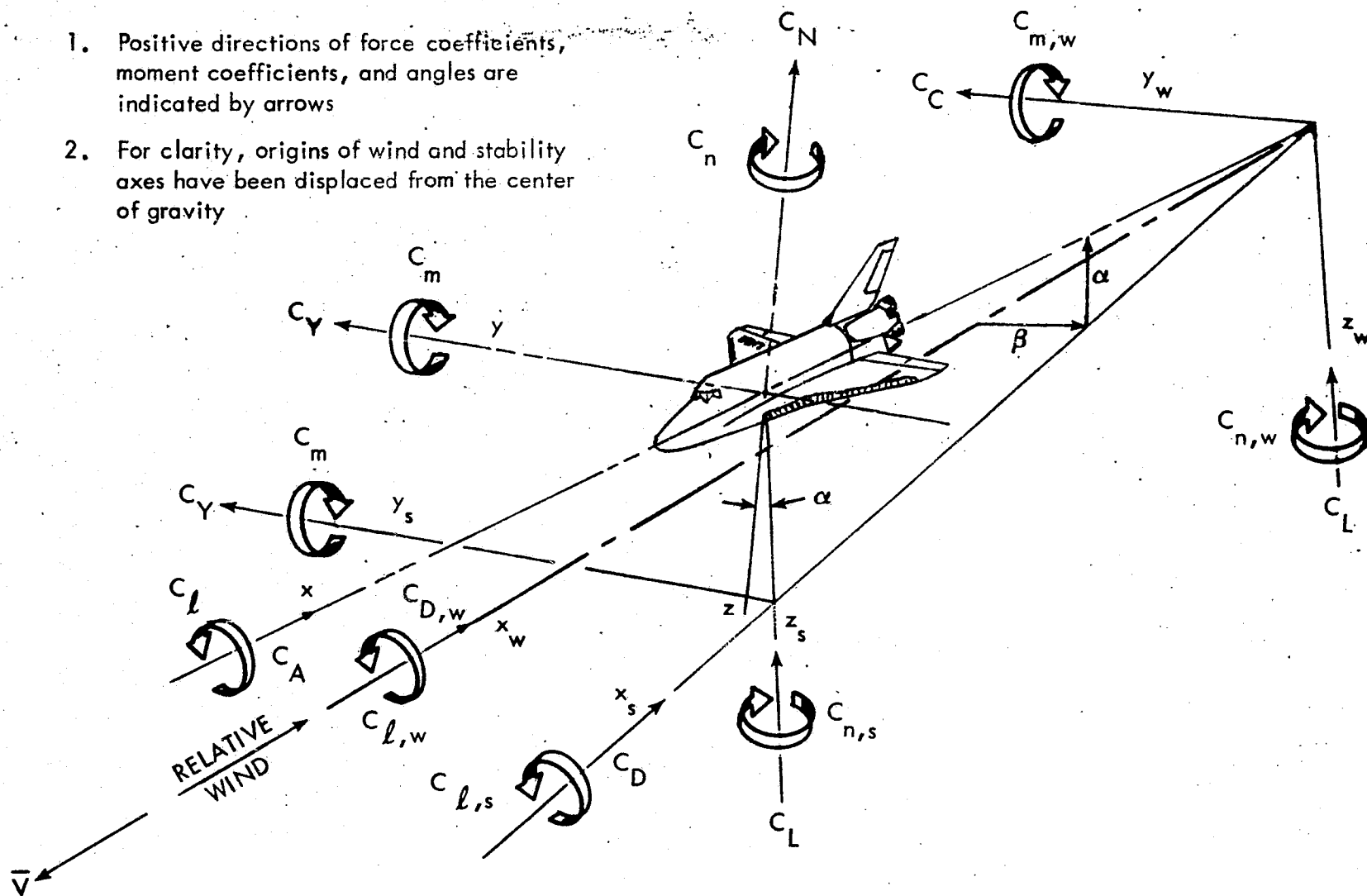
1083.4

10.834

Leading Edge Intersects Wing @ Sta

Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

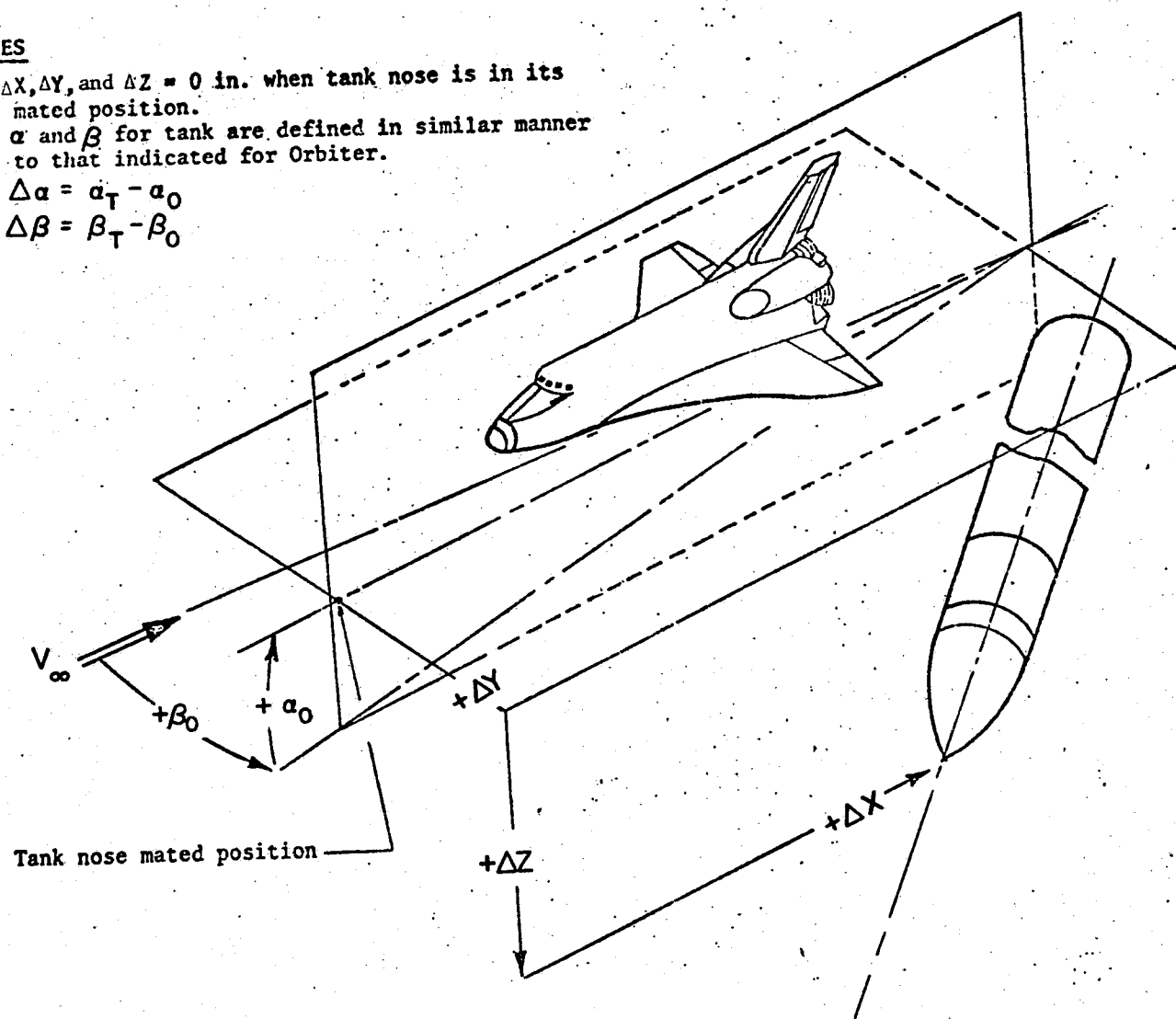


a. General

Figure 1. - Axis systems.

NOTES

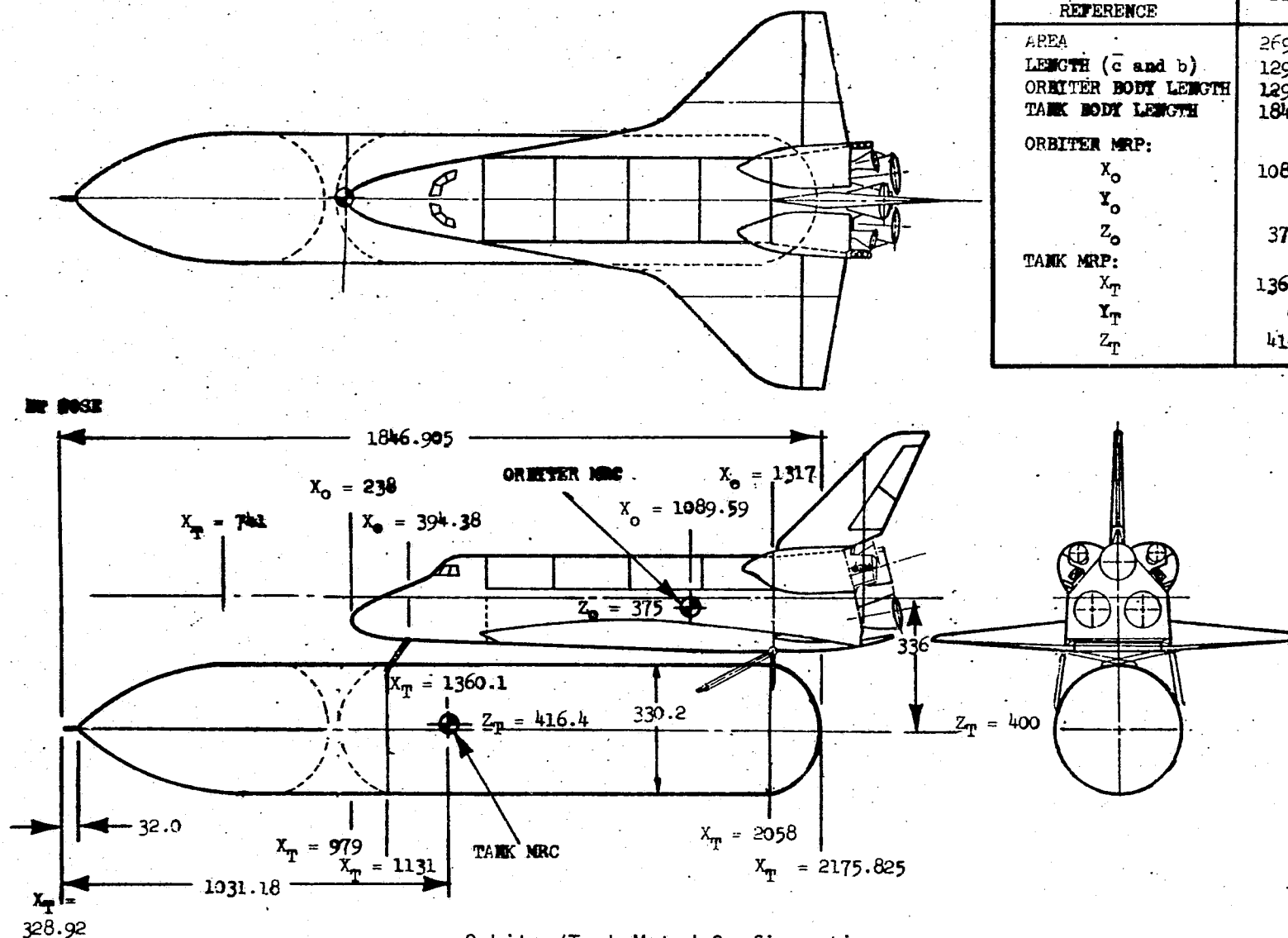
1. $\Delta X, \Delta Y$, and $\Delta Z = 0$ in. when tank nose is in its mated position.
2. α and β for tank are defined in similar manner to that indicated for Orbiter.
3. $\Delta\alpha = \alpha_T - \alpha_0$
 $\Delta\beta = \beta_T - \beta_0$



b. Tank Separation From Orbiter

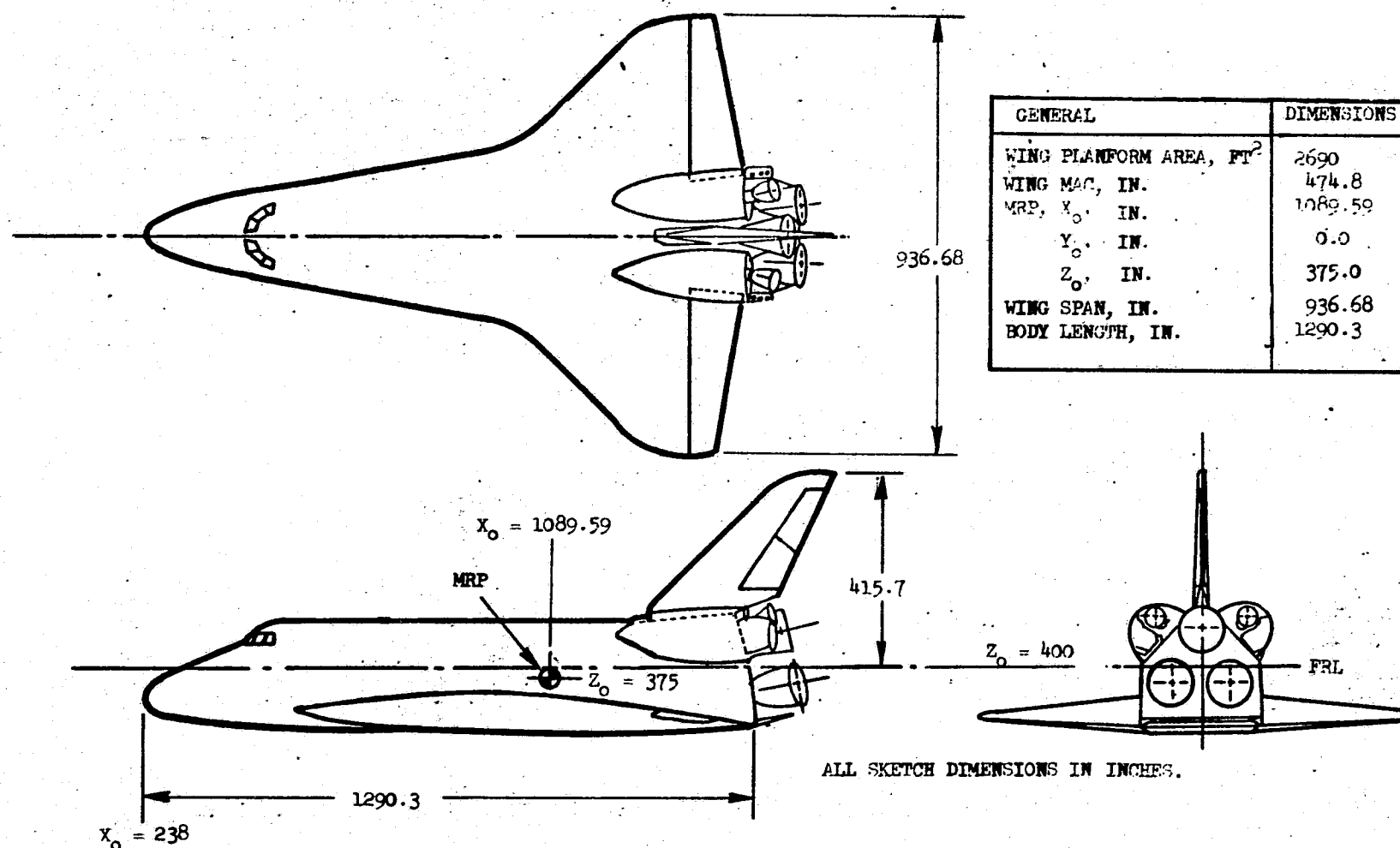
Figure 1. - Concluded.

DATA REDUCTION REFERENCE	DIMENSIONS	
AREA	2690	FT ²
LENGTH (c and b)	1290.3	IN.
ORBITER BODY LENGTH	1290.3	IN.
TANK BODY LENGTH	1846.905	IN.
ORBITER MRP:		
X_O	1089.59	IN.
Y_O	0.0	
Z_O	375.0	IN.
TANK MRP:		
X_T	1360.1	IN.
Y_T	0.0	IN.
Z_T	416.4	IN.



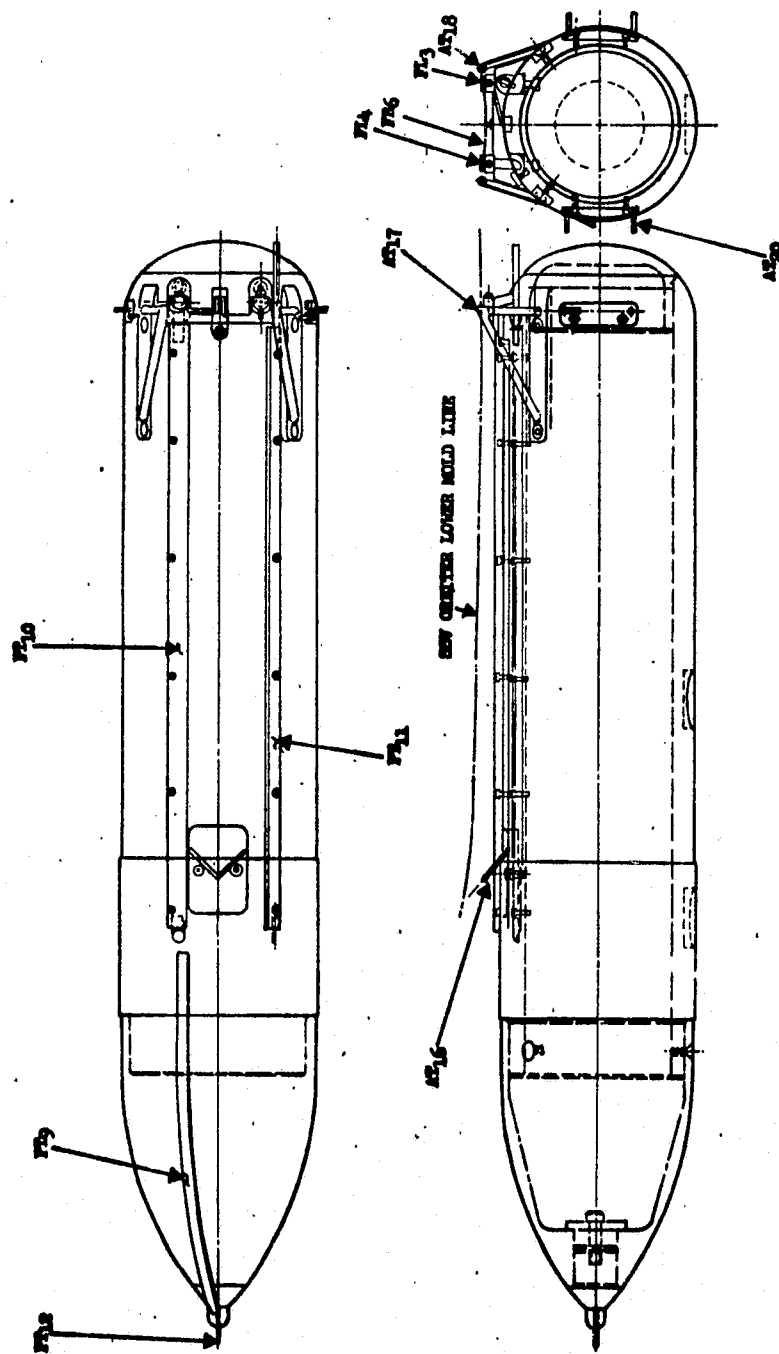
a. Orbiter/Tank Mated Configuration

Figure 2. - Model sketches.



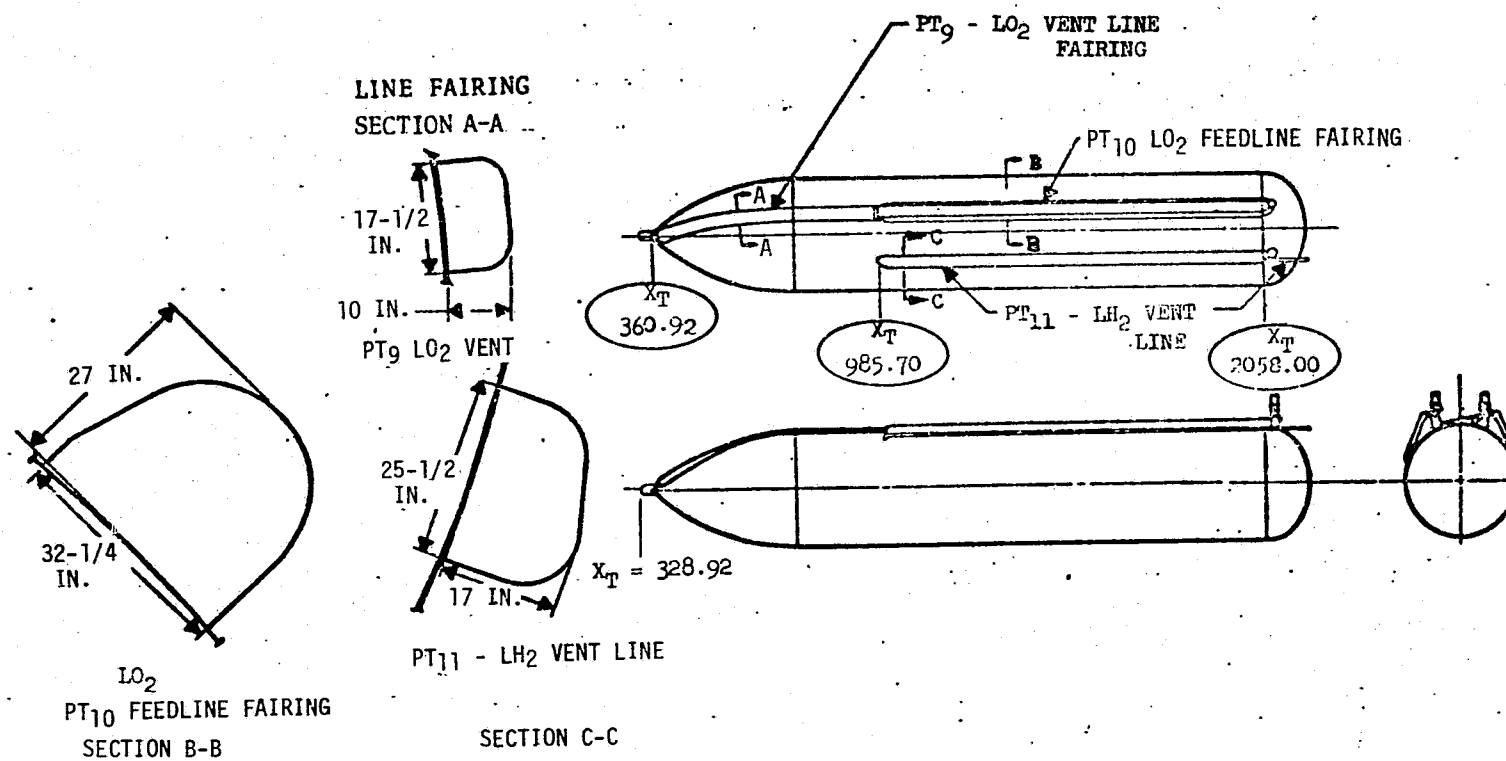
b. Orbiter Configuration

Figure 2. - Continued.



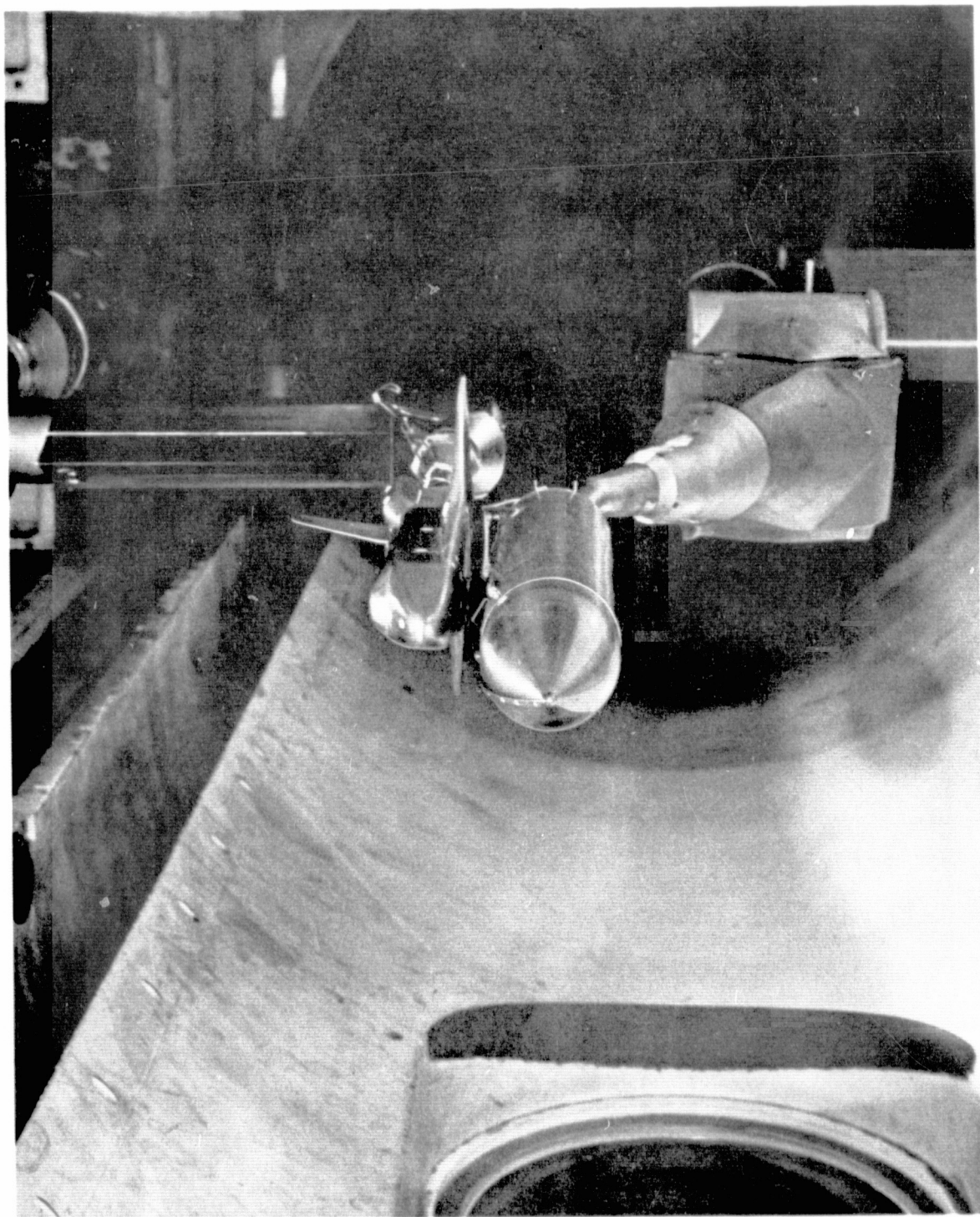
c. External Tank Configuration

Figure 2. - Continued.



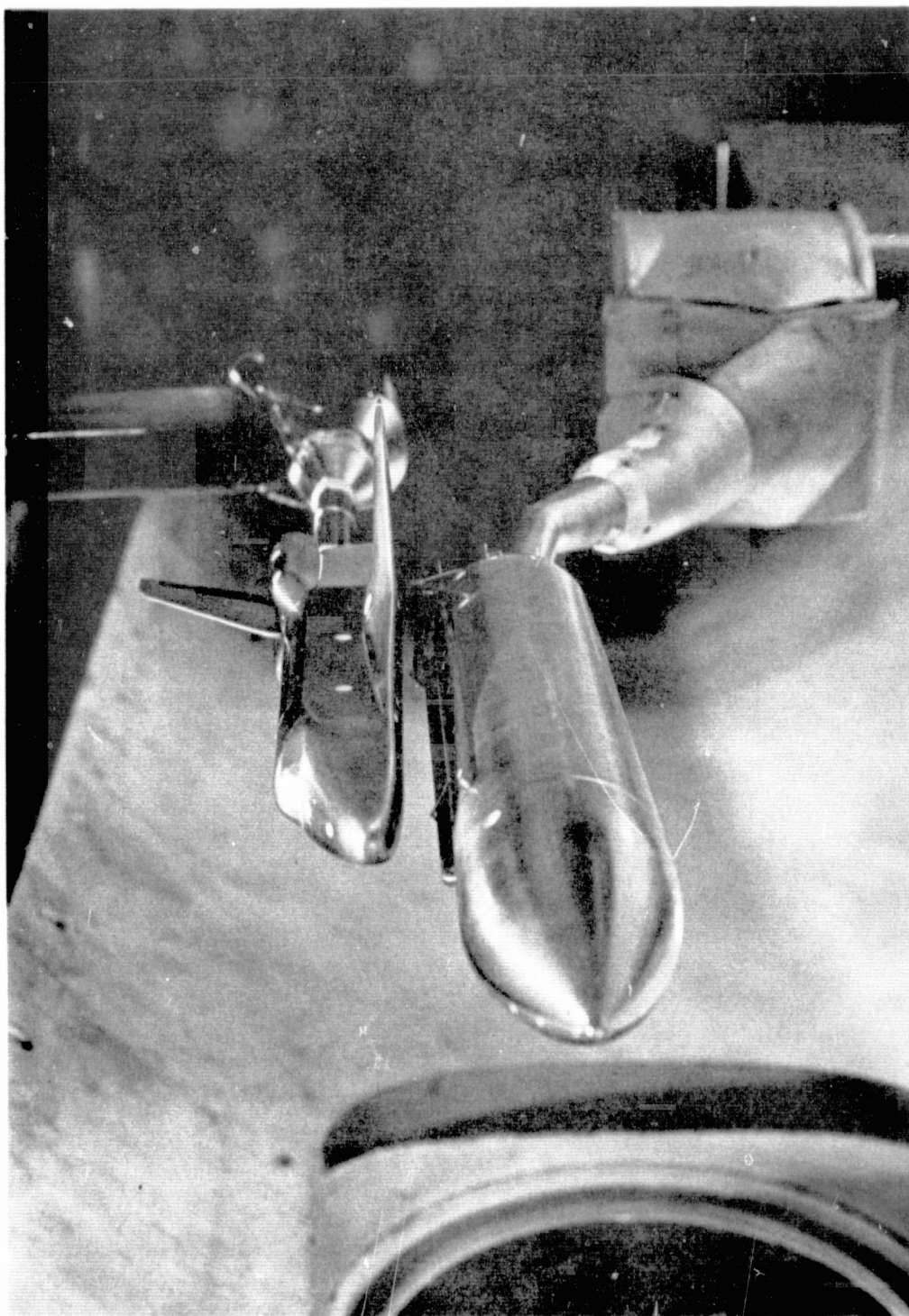
d. External Tank Protuberances

Figure 2. - Concluded.



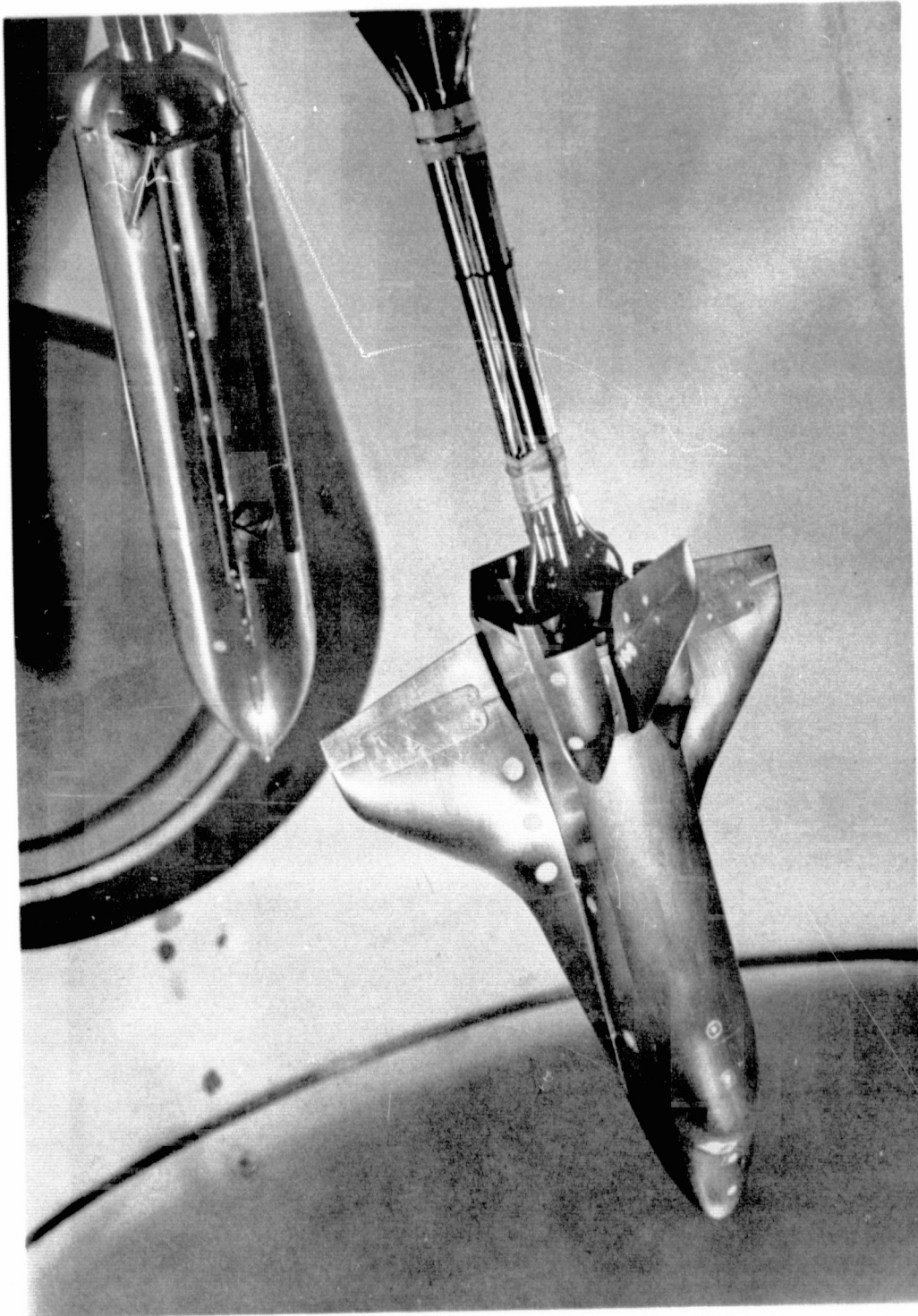
a. Mated Position

Figure 3. - Model photographs.



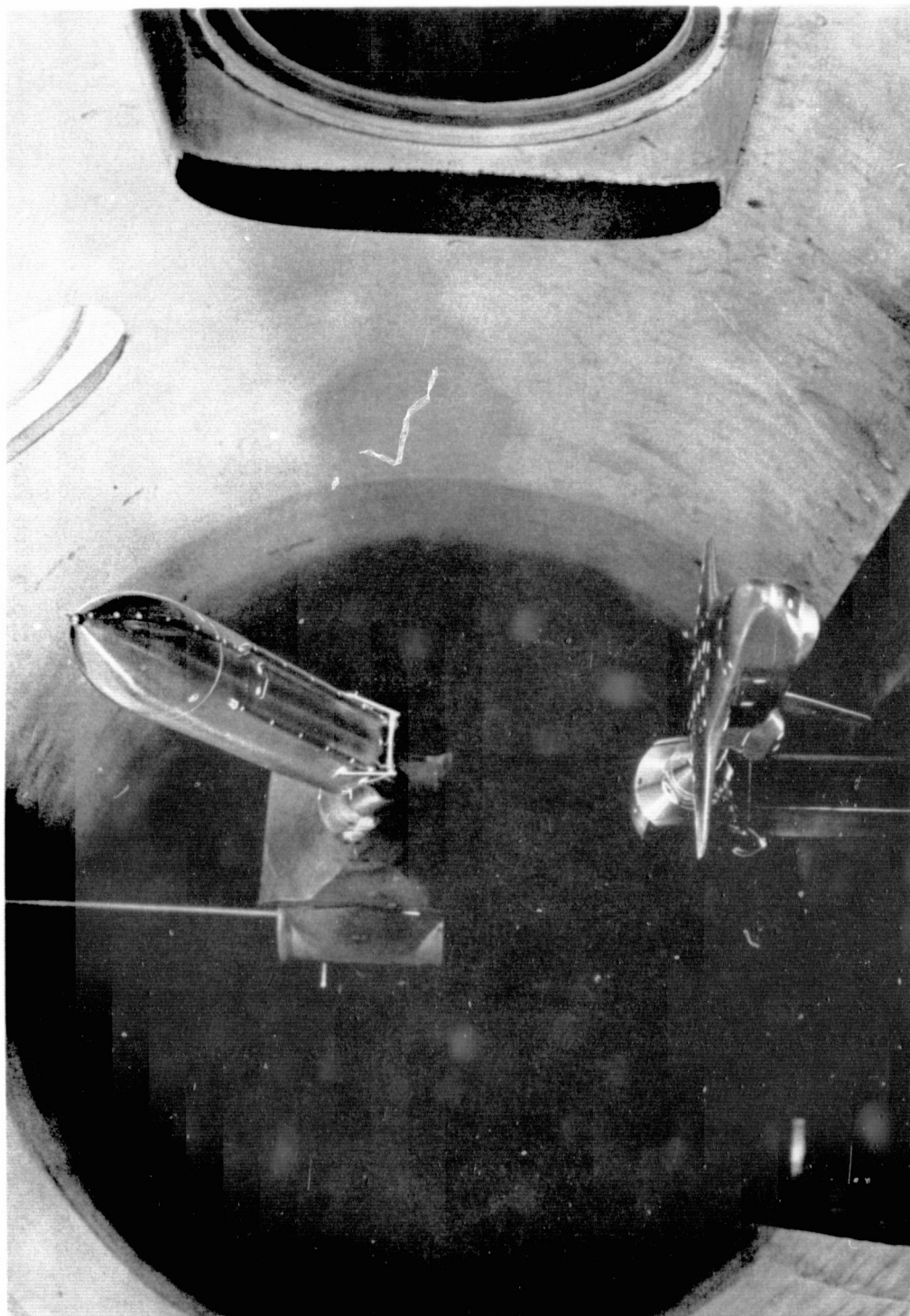
b. Near Separation Position

Figure 3. - Continued.



c. Median Separation Position

Figure 3. - Continued.



d. Large Separation Position

Figure 3. - Concluded.

DATA FIGURES

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AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR001)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.399	.000	ALPHA	.000
□	200.460	.000	DLTALF	.000
◇	400.550	.000	MACH	5.930
		.000	ELEVON	.000
		1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

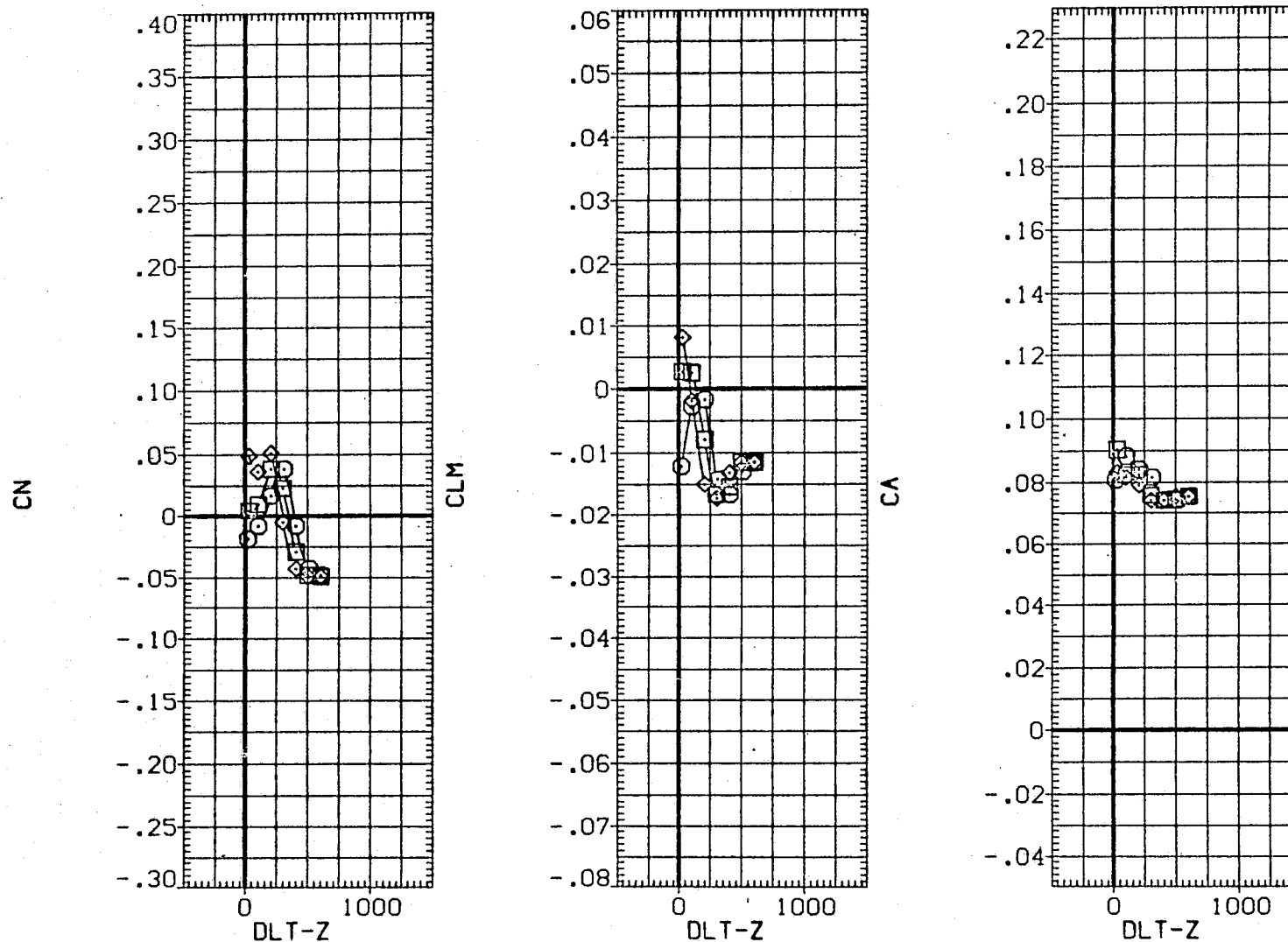


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR001)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.399		.000	ALPHA .000
□	200.460	BETA	.000	DLTALF .000
◇	400.550	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

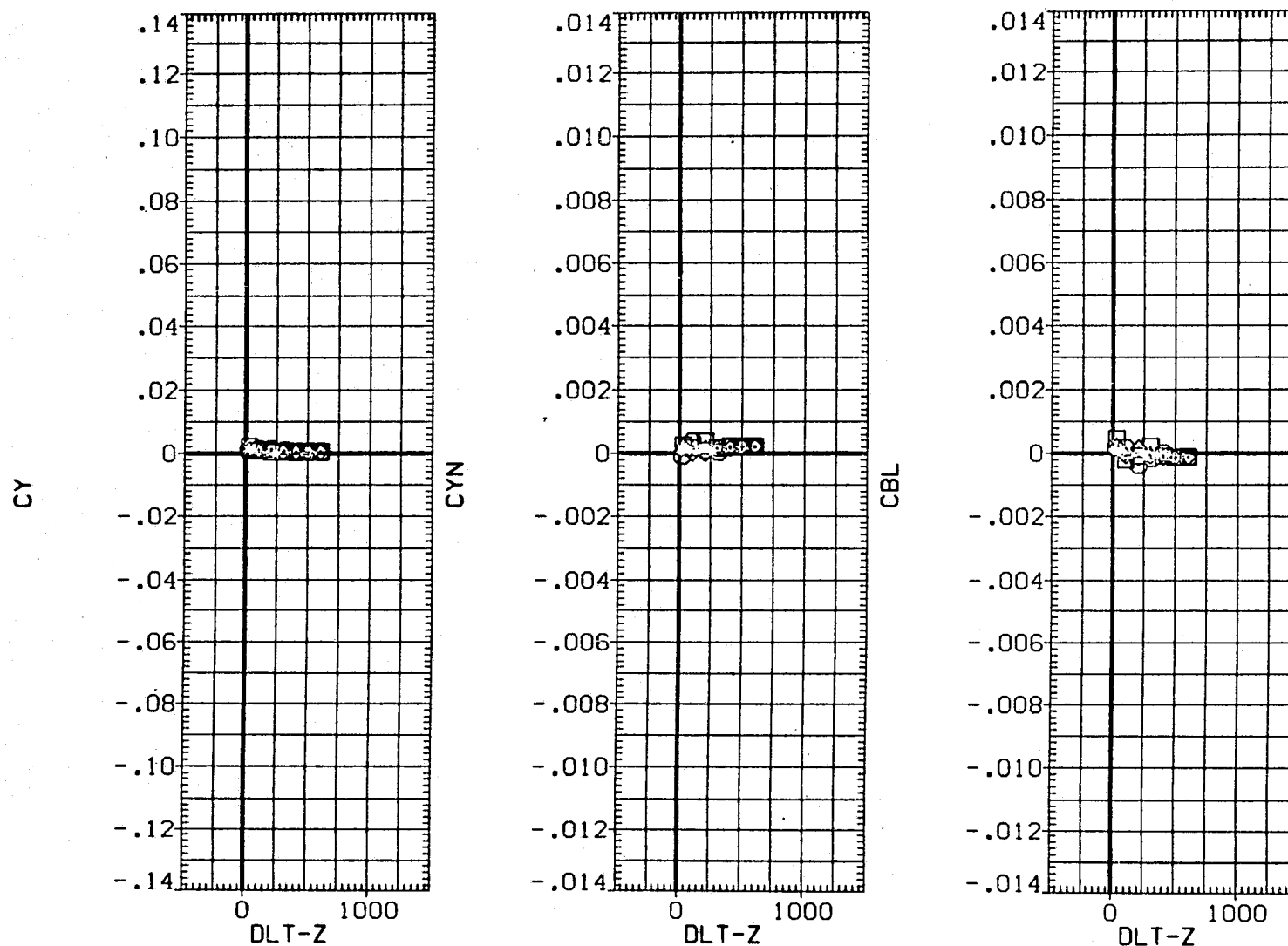


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR002)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.583	.000	DLTALF	-5.000
□	200.520	.000	MACH	5.930
		.000	ELEVON	.000
		.000		
		1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

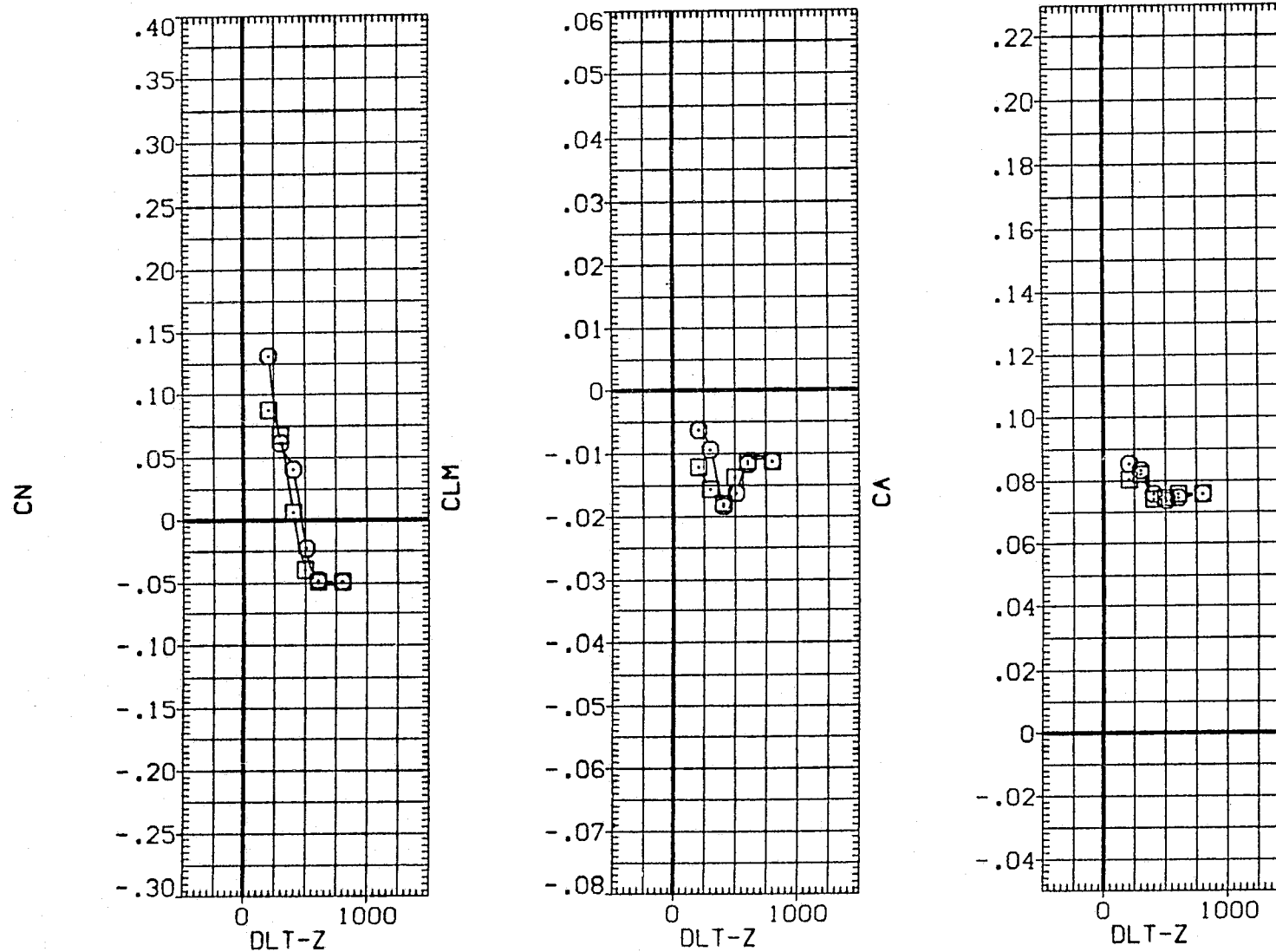


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR002)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.583	BETA	.000	ALPHA
□	200.520	DLTBTA	.000	DLTALF
		AILRON	.000	MACH
		GRID	1.000	ELEVON

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

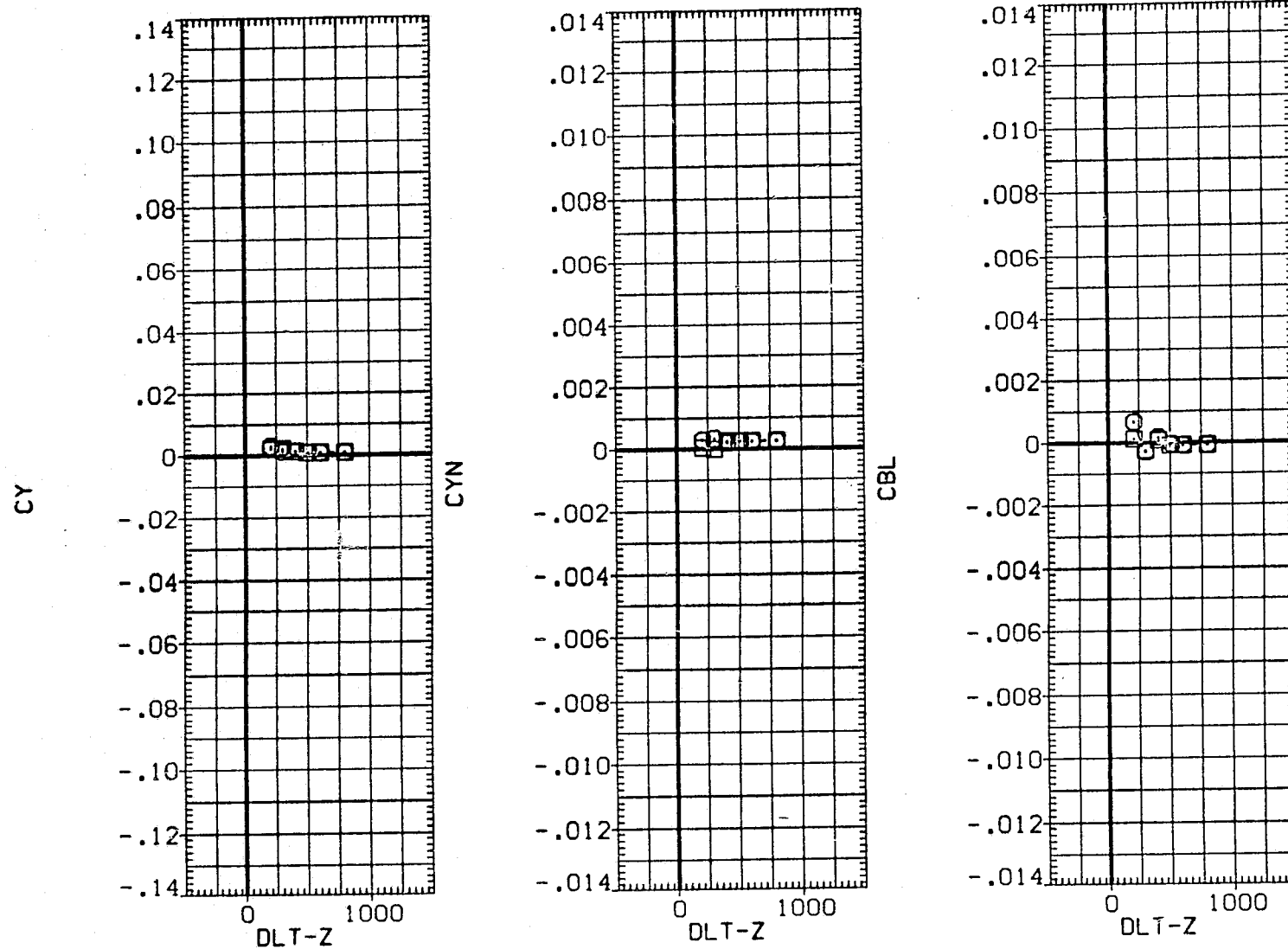


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR003)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.624		.000	-10.000	5.930	.000
□	200.510		.000			
◇	400.500		.000			
		DLTBT	.000			
		ATLRON	.000			
		GRID	1.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

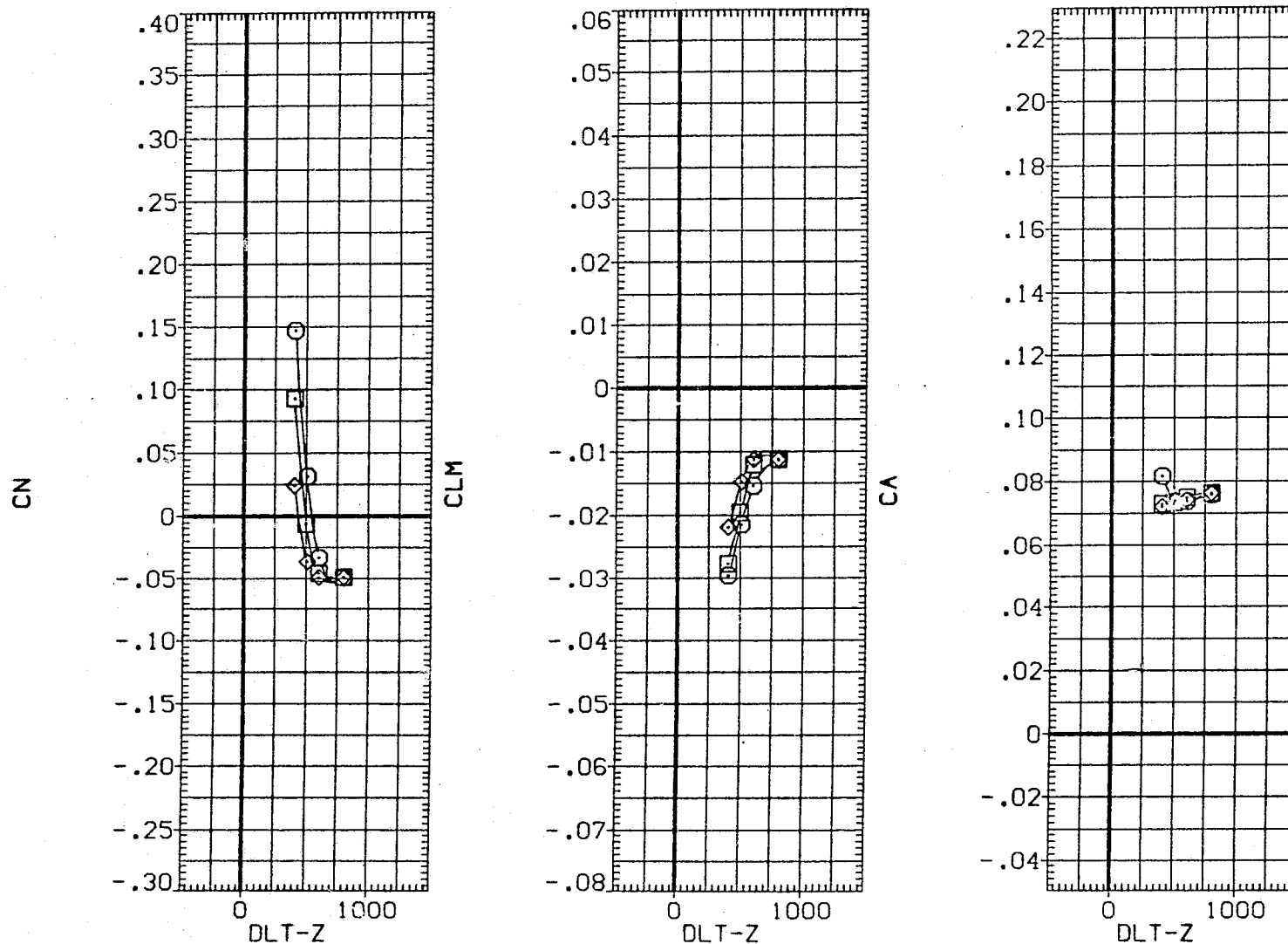


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR003)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.624	.000	ALPHA	.000
□	200.510	.000	DLTALF	-10.000
◇	400.500	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

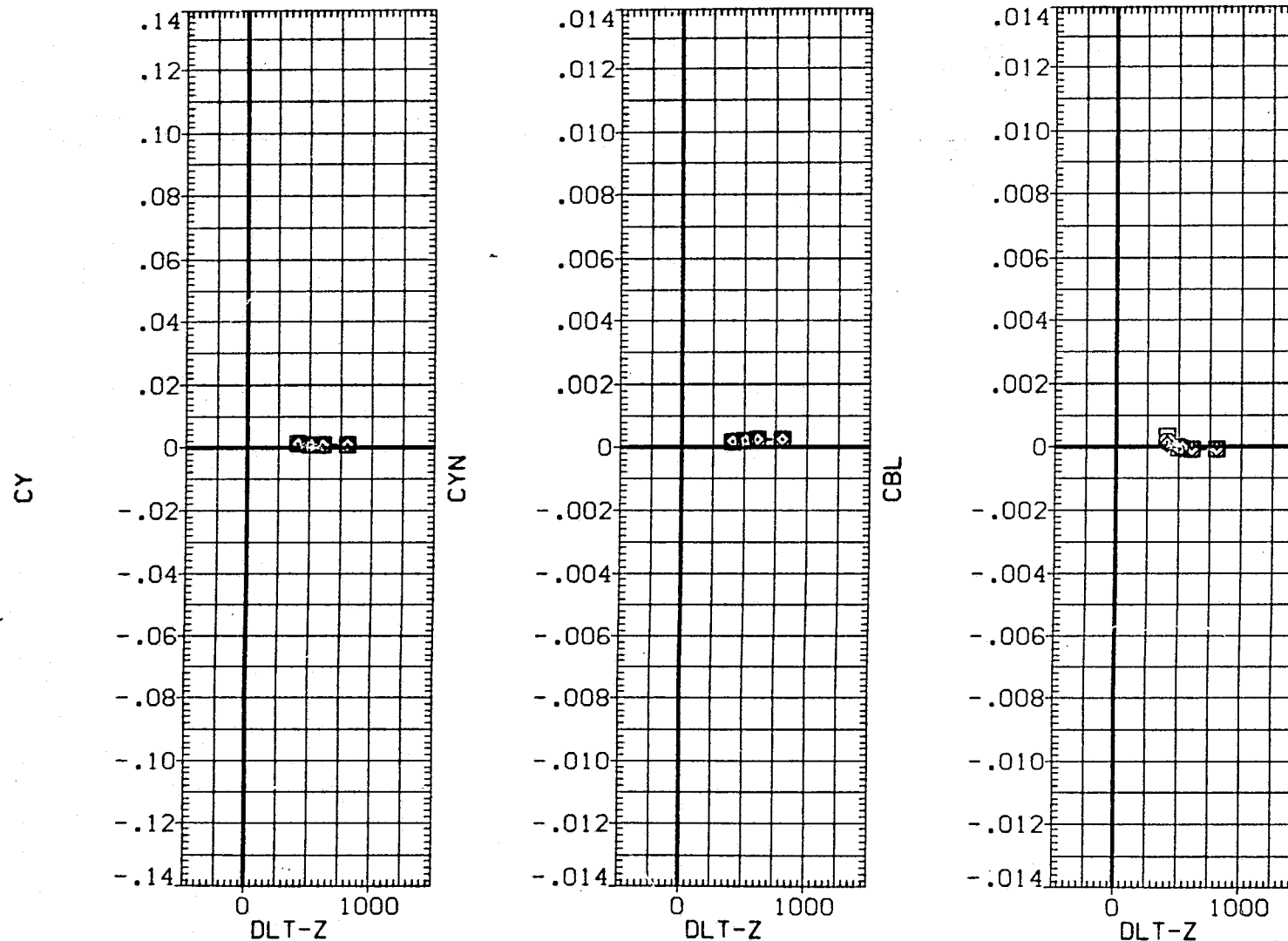


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR004)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.442	.000	ALPHA	.000
□	200.430	.000	DLTALF	-15.000
◇	400.470	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

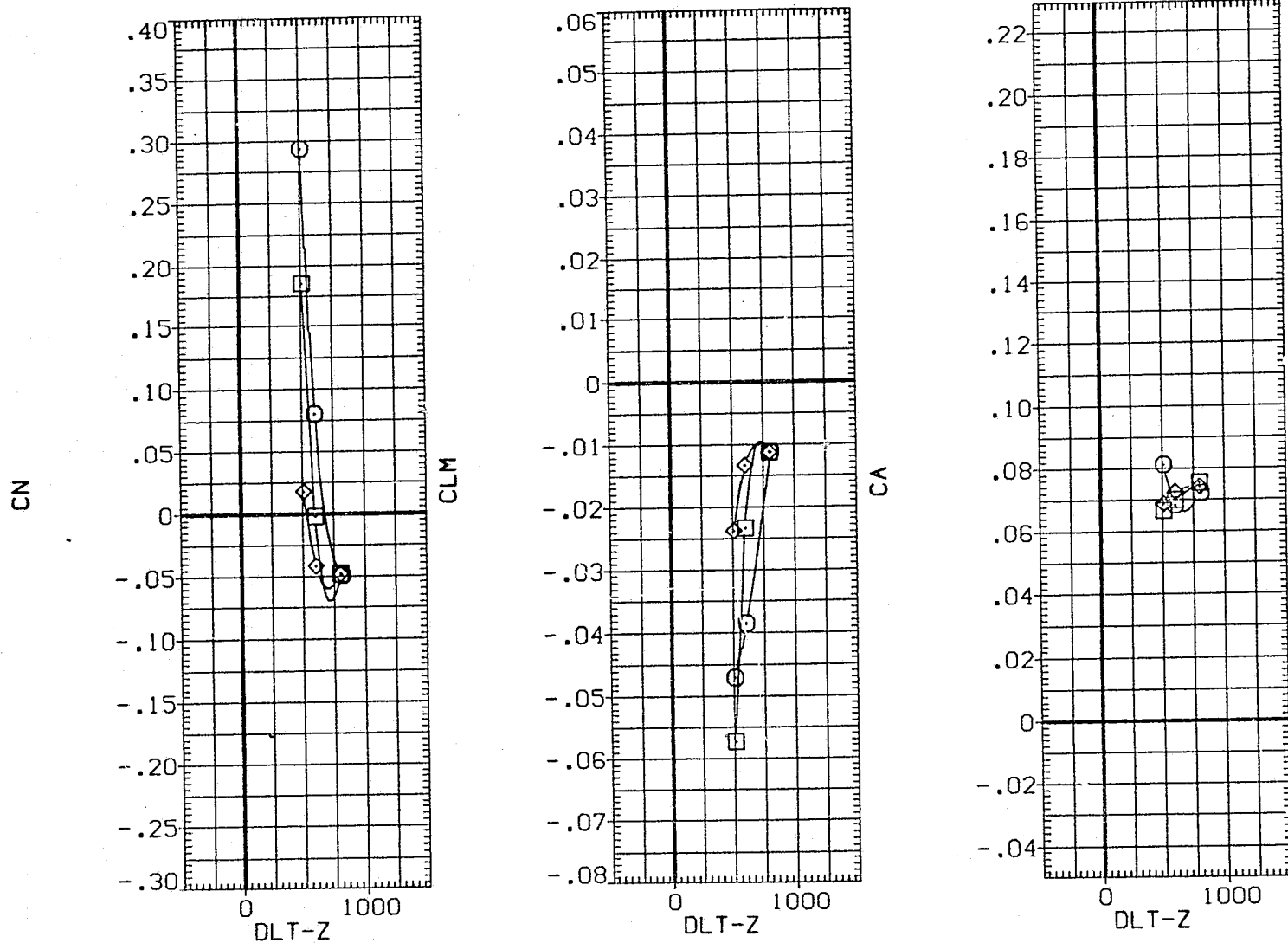


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTRO04)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.442	.000	ALPHA	.000
□	200.430	.000	DLTALF	-15.000
◇	400.470	.000	MACH	5.930
		.000	ELEVON	.000
		1.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

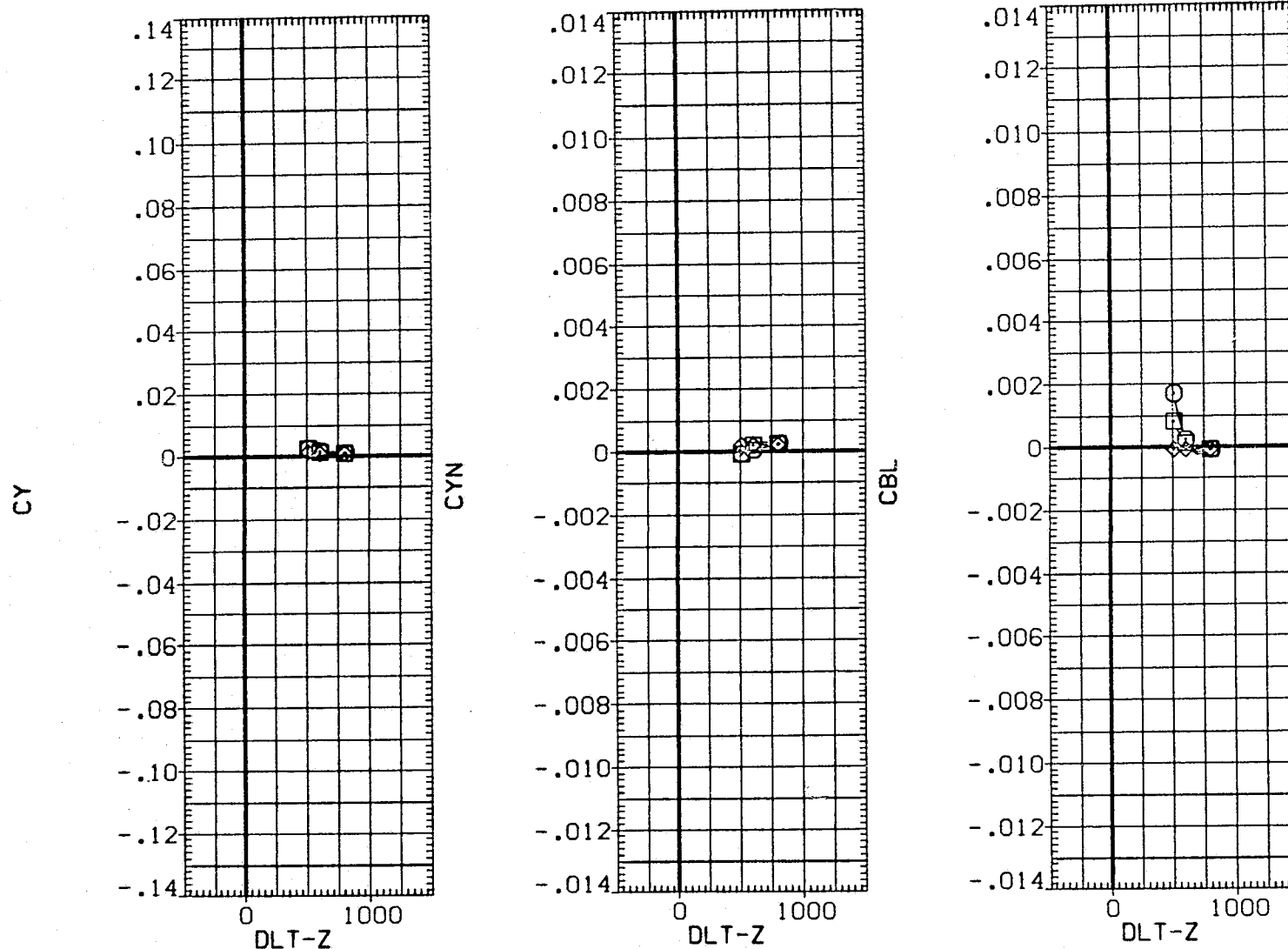


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR005)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.456	.000	ALPHA	.000
□	200.420	.000	BETA	-20.000
◇	400.420	.000	DLTALF	5.930
		.000	MACH	.000
		.000	ELEVON	.000
		1.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

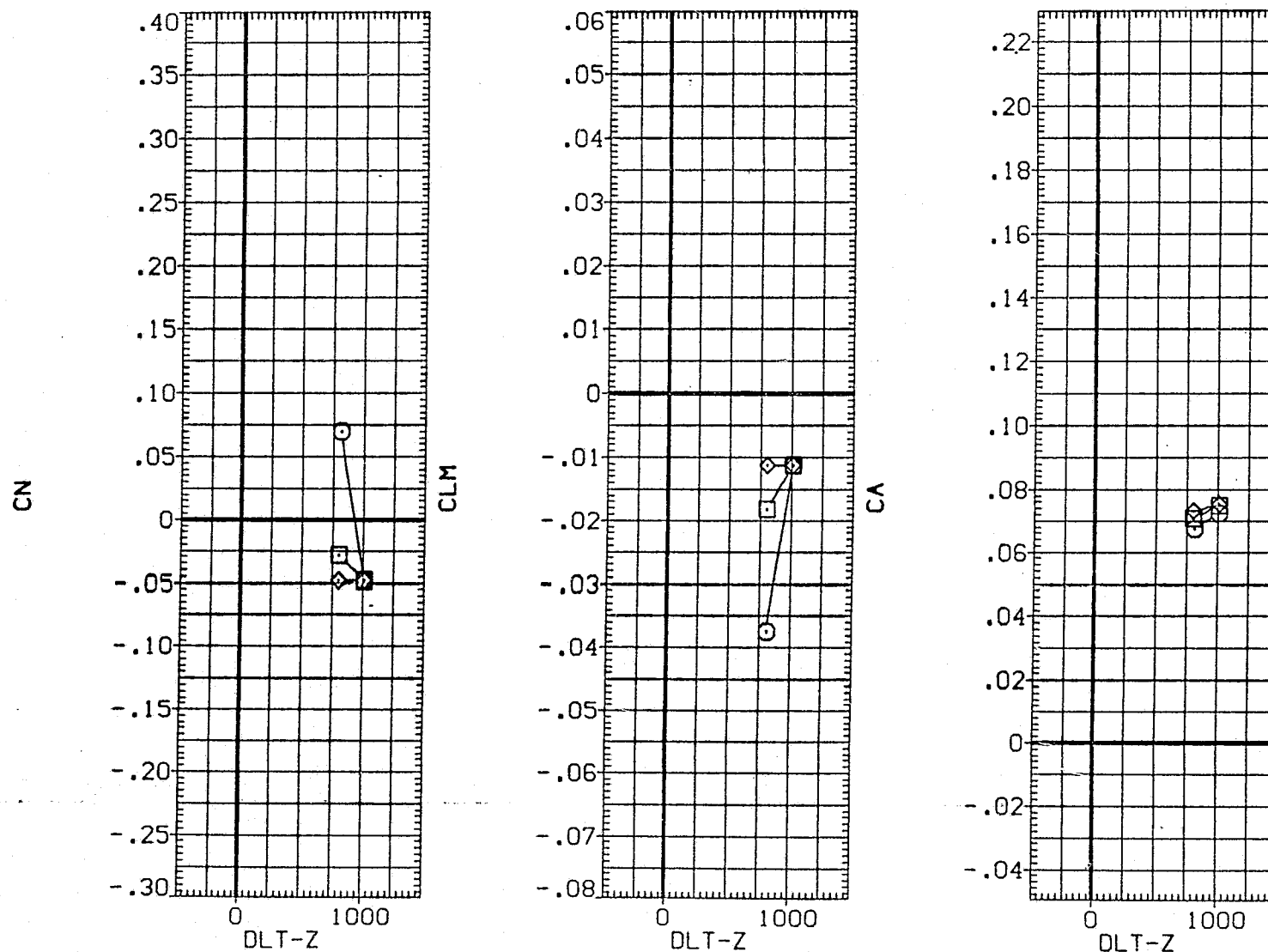


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR005)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	DLTALF
○	.456	.000	.000	.000	-20.000
□	200.420	.000	.000	.000	5.930
◇	400.420	.000	.000	.000	.000
		AILRON	1.000		
		GRID			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

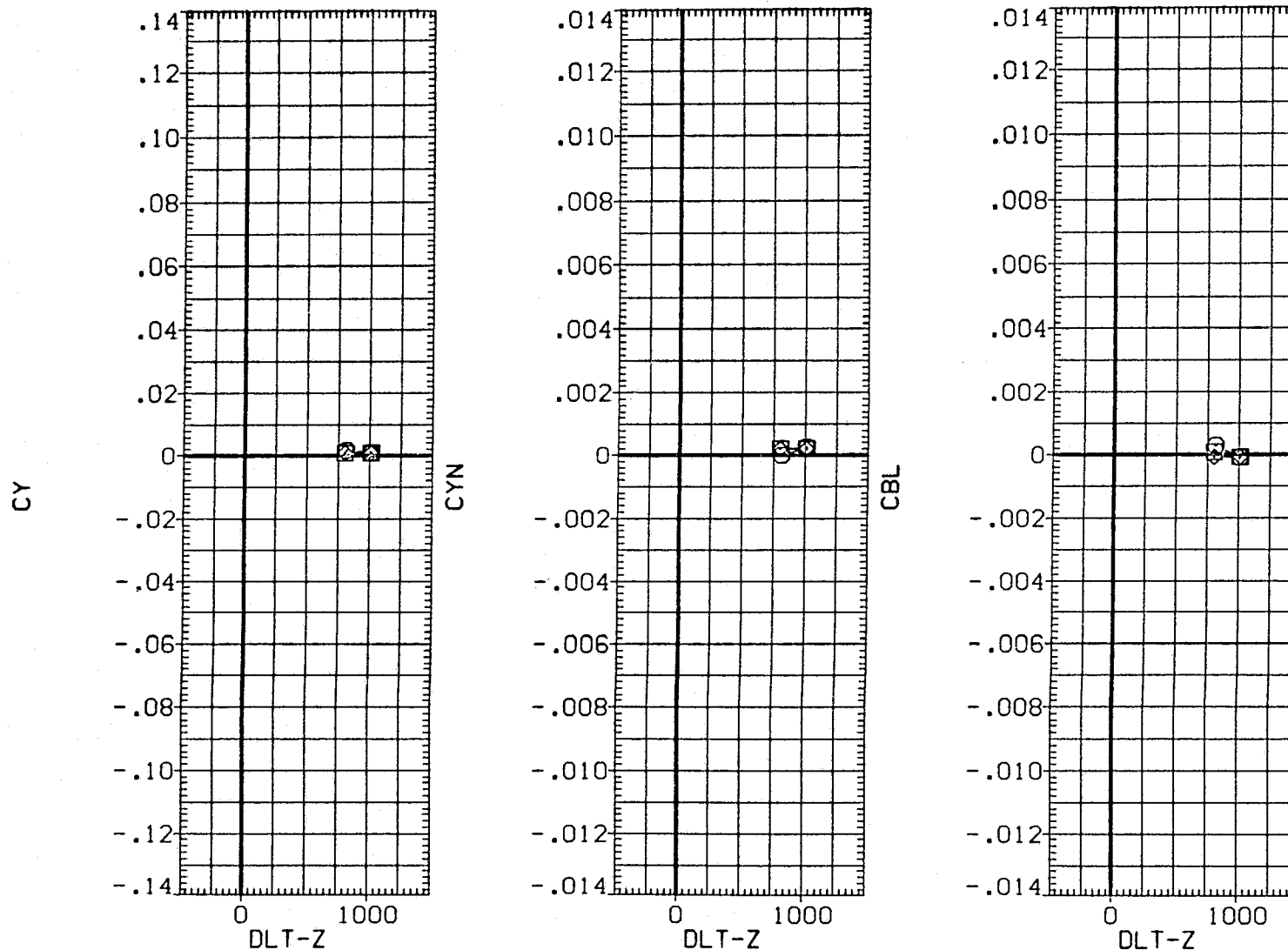


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR006)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.538	DLT-Y	.000	ALPHA	.000
		BETA	.000	DLTALF	-20.000
		DLTBTA	.000	MACH	5.930
		ATLRON	.000	ELEVON	.000
		GRID	26.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

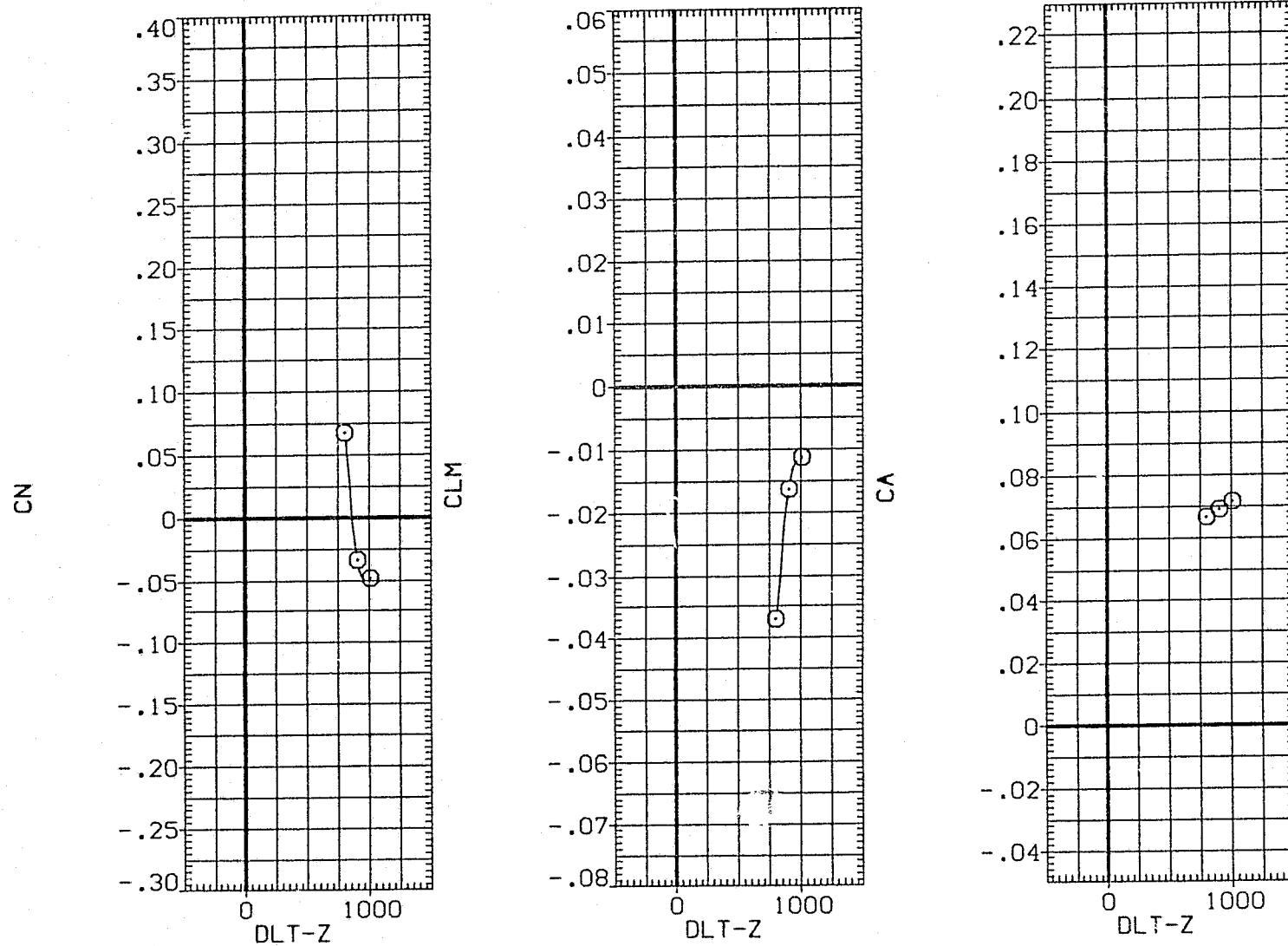


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR006)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.538	DLT-Y	.000	ALPHA	.000
		BETA	.000	DLTALF	-20.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	26.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

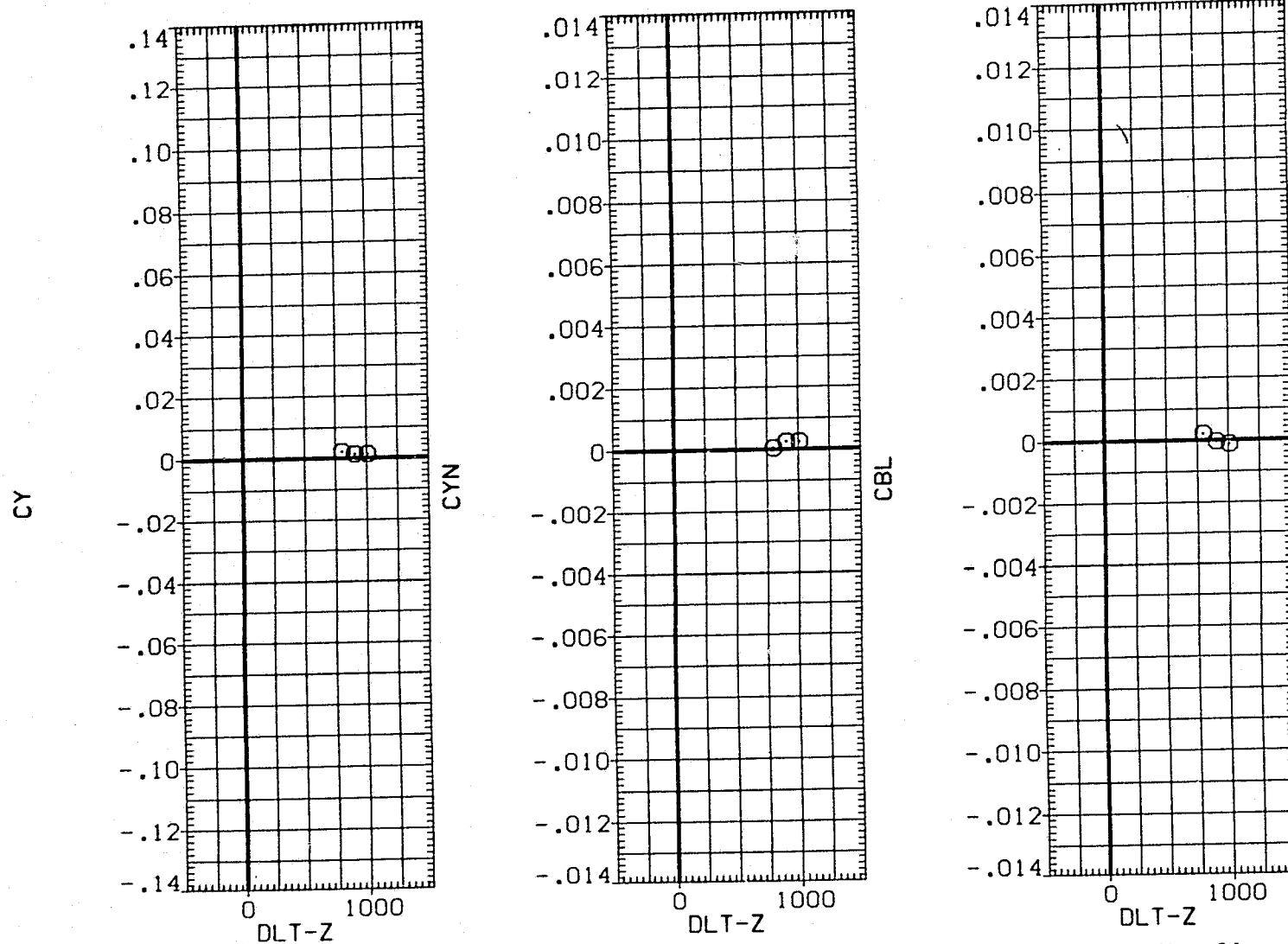


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR007)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.447	.000	ALPHA	.000
□	200.480	.000	DLTALF	-20.000
◇	400.400	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	26.000	

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

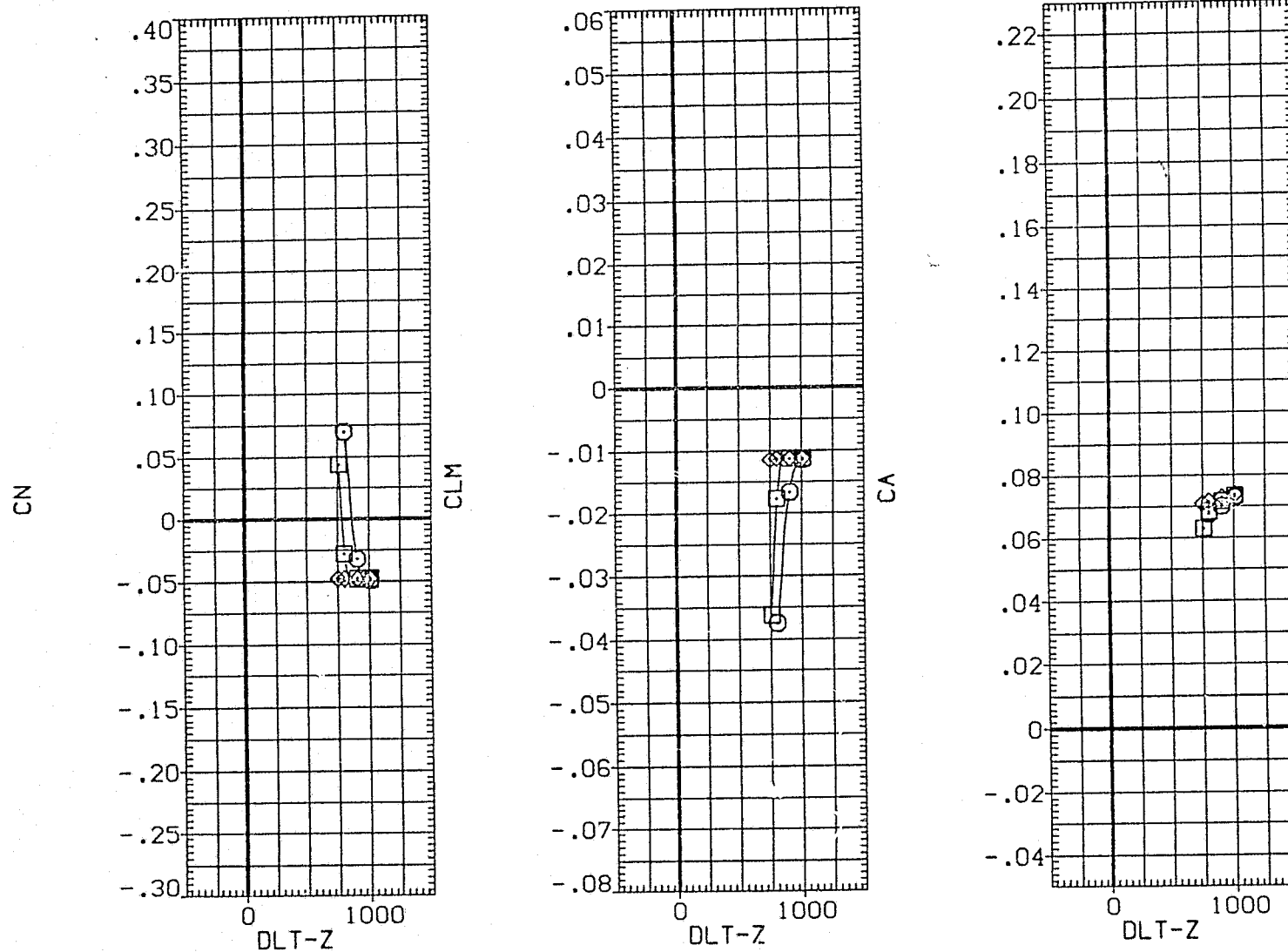


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0; MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR007)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.447	.000	DLTALF	.000
□	200.480	.000	MACH	-20.000
◇	400.400	.000	ELEVON	5.930
		.000		.000
		GRID	26.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

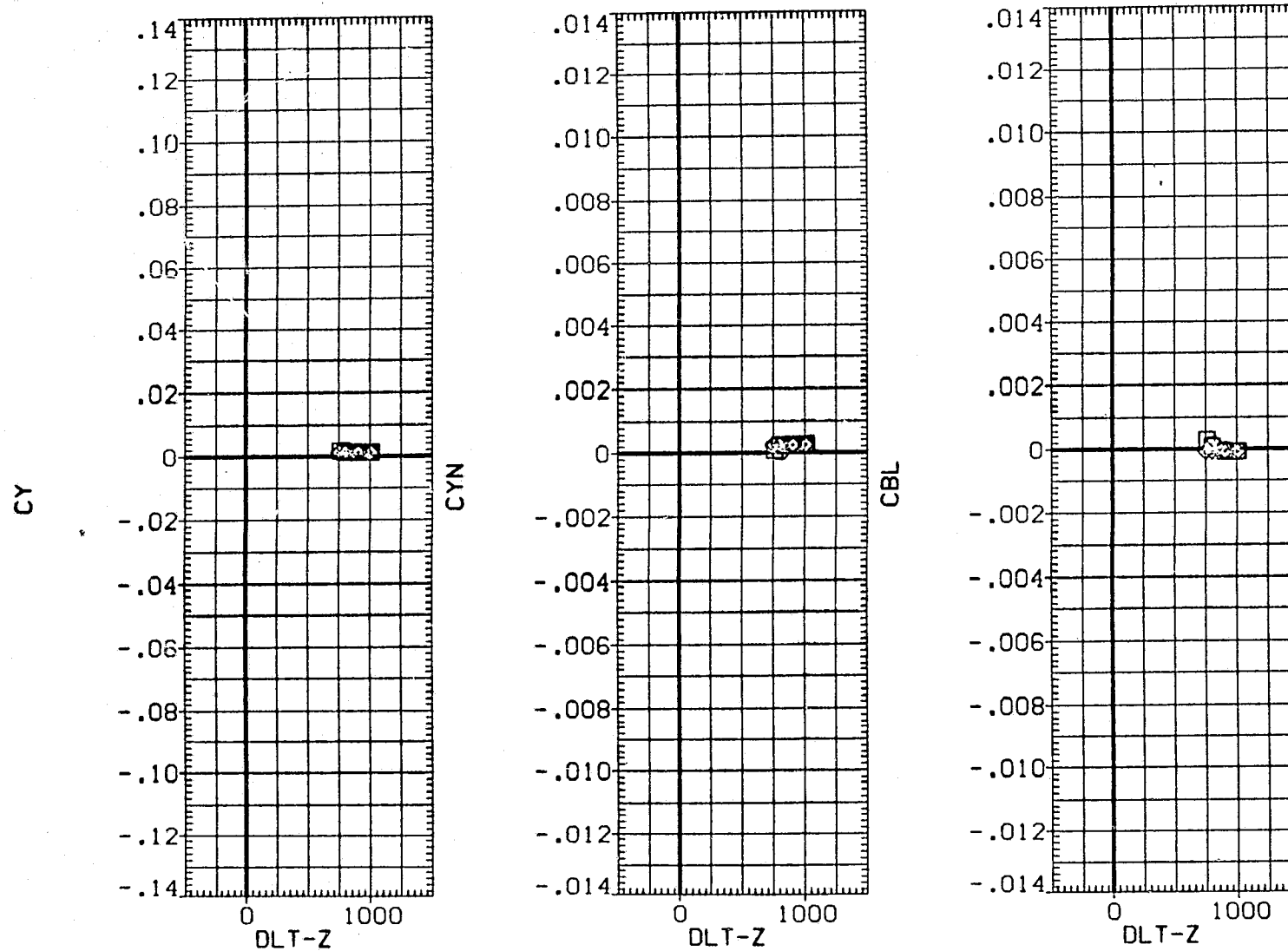


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR008)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.568	BETA	.000	ALPHA
□	200.630	DLTBT	3.000	DLTALF
		AILRON	.000	MACH
		GRID	3.000	ELEVON
				.000
				5.930
				.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

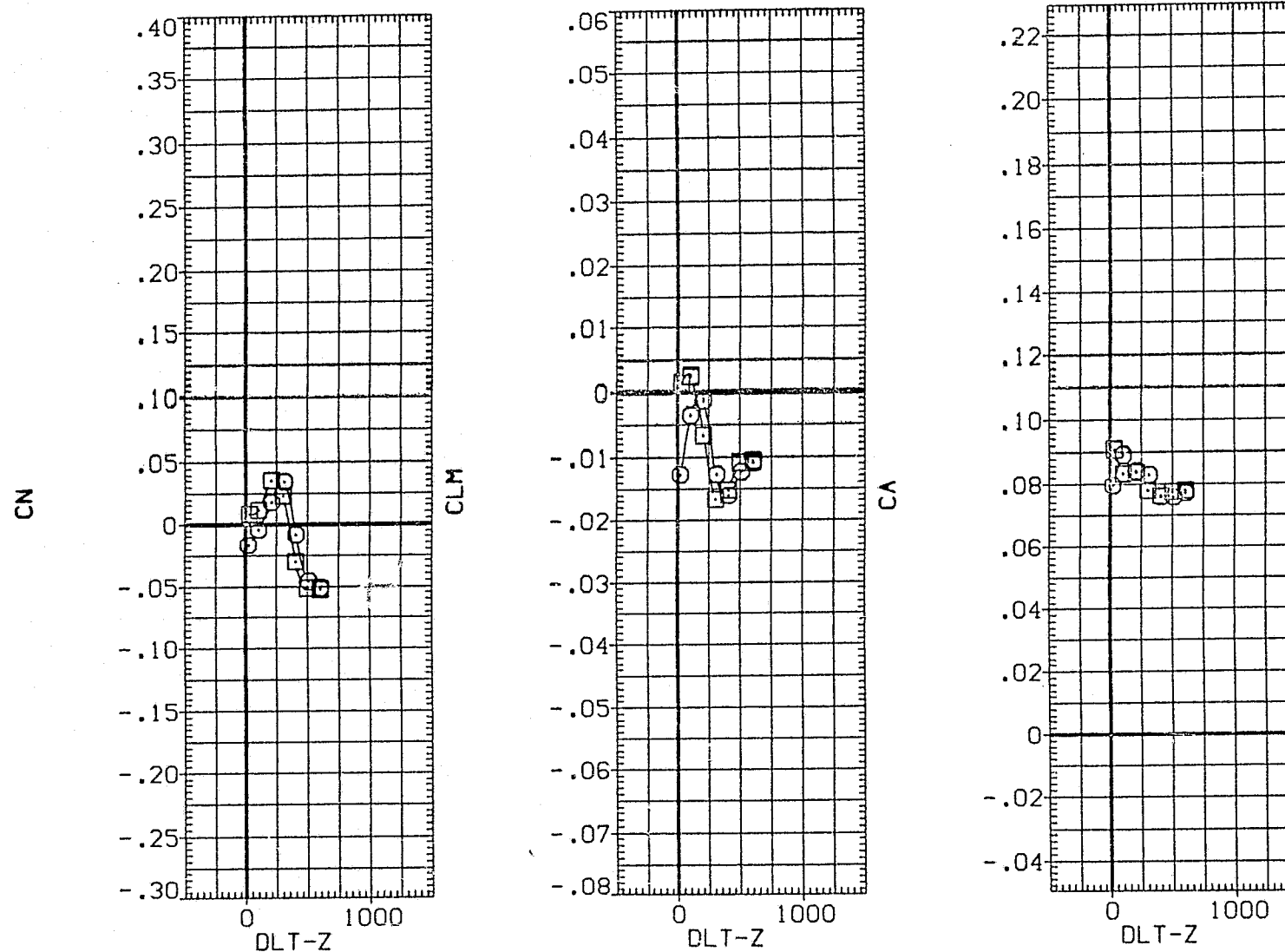


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR008)

SYMBOL	DLT-X		PARAMETRIC VALUES		
	DLT-Y	DLT-Z	ALPHA	DLTALF	
○	.568	BETA	.000	.000	
□	200.630	DLTBT	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

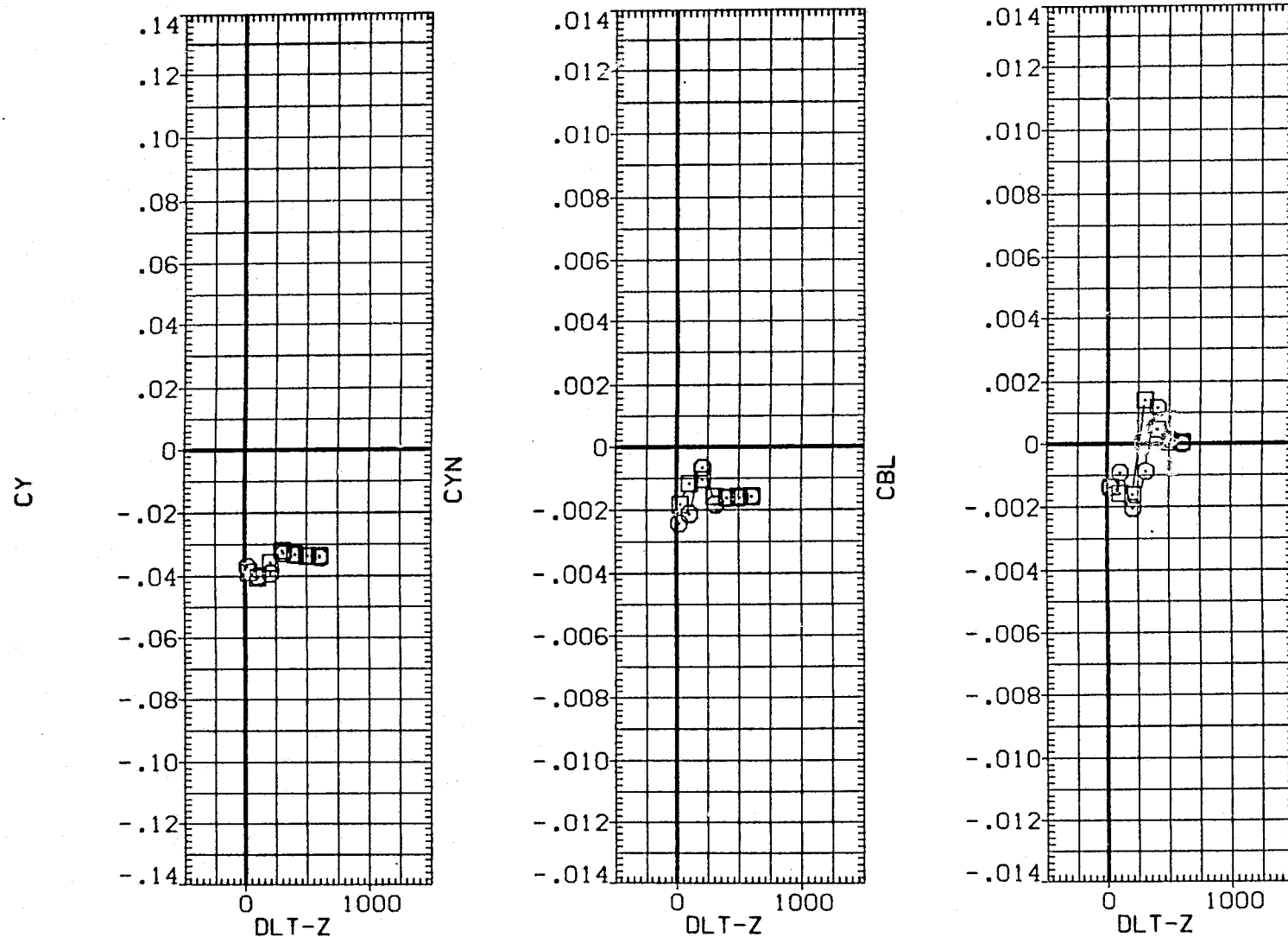


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR009)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.627	.000	ALPHA	.000
□	200.510	BETA	3.000	DLTALF
		DLTBTA	.000	MACH
		AILRON	.000	ELEVON
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

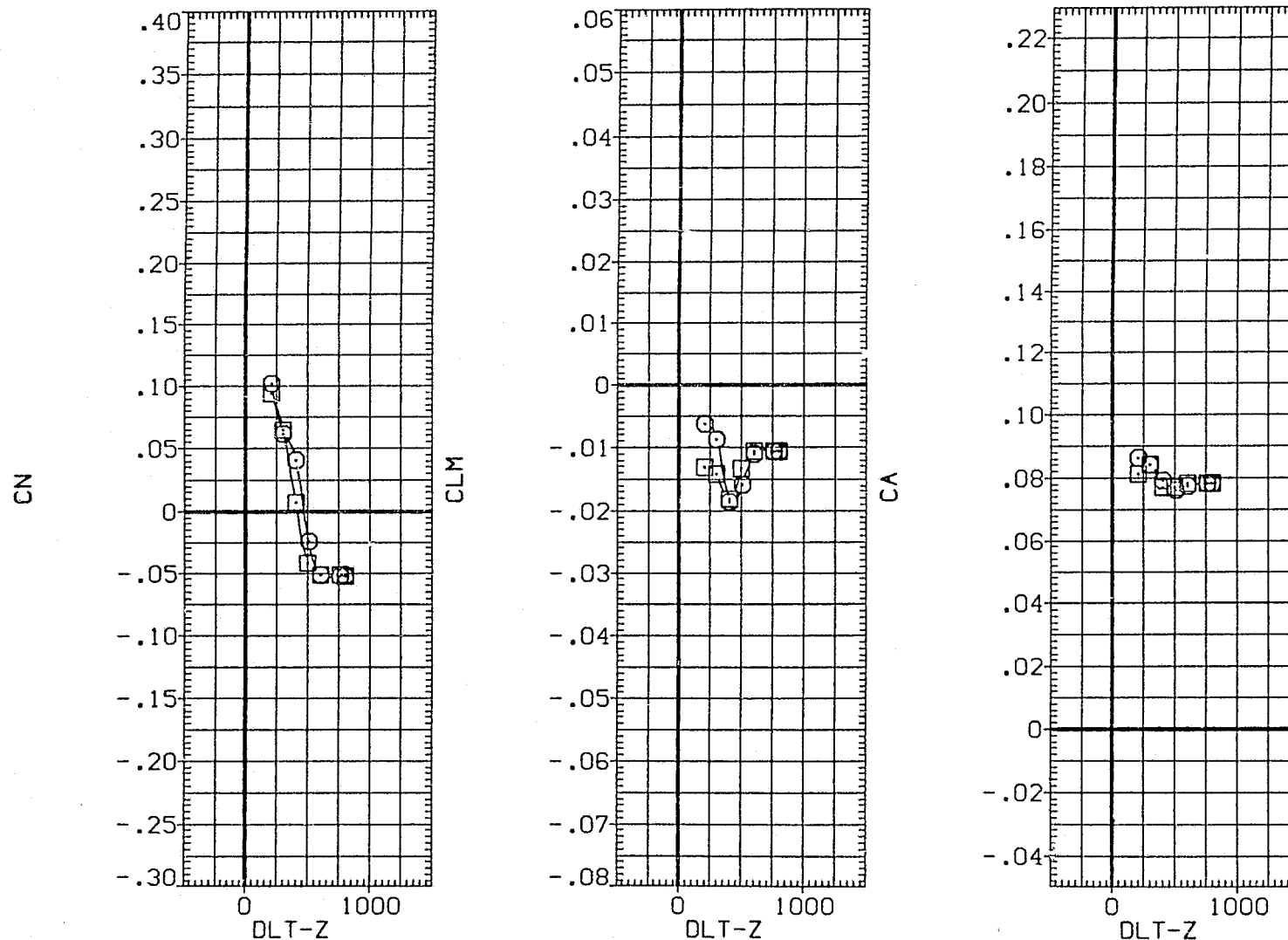


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR009)

SYMBOL	DLT-X	PARAMETRIC VALUES			
	○ .627	DLT-Y	.000	ALPHA	.000
□	200.510	BETA	3.000	DLTALF	-5.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

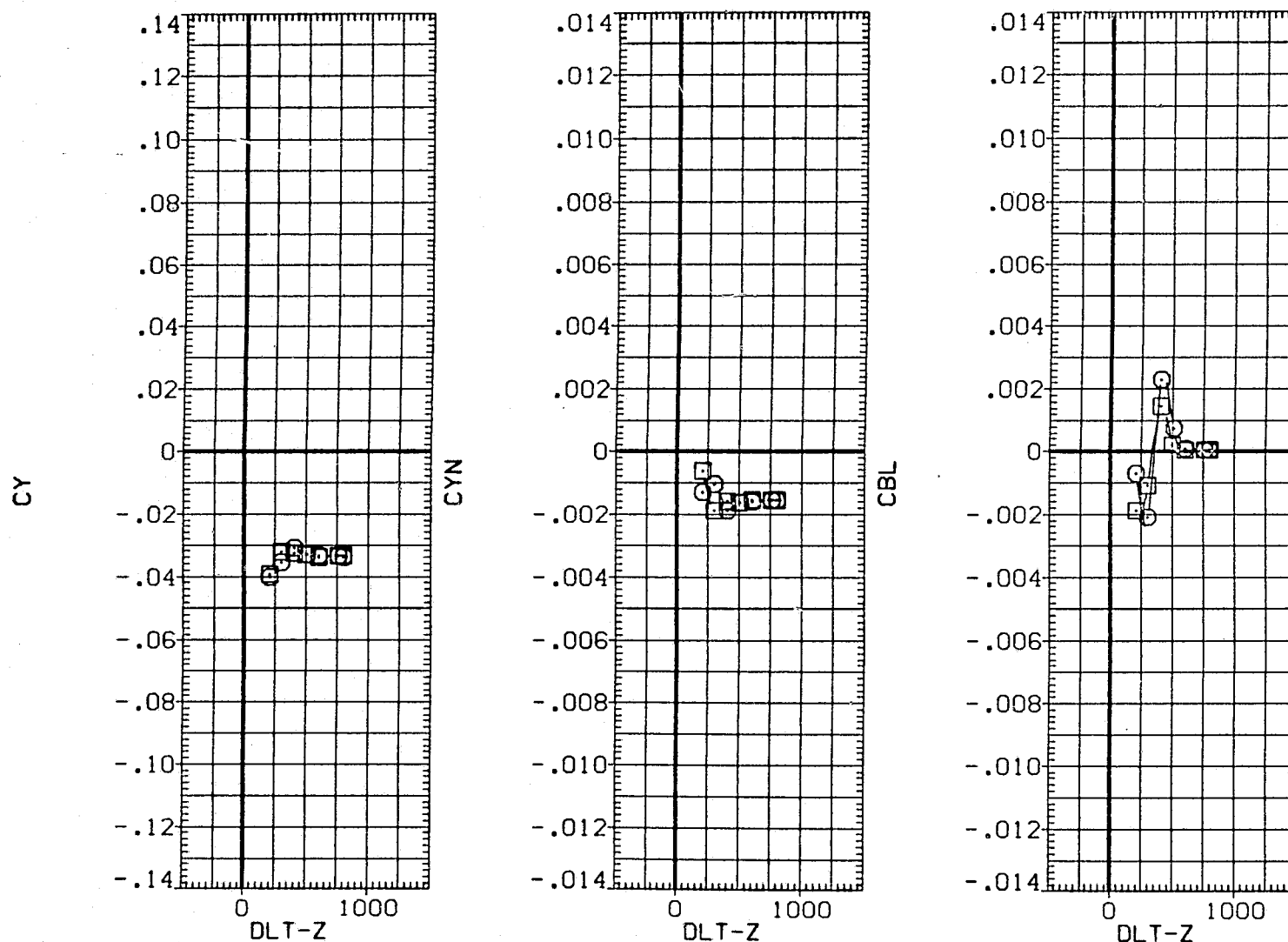


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR010)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.557	.000	BETA	.000
□	200.450	3.000	DLTALF	-10.000
◇	400.470	.000	MACH	5.930
		.000	ELEVON	.000
		3.000	GRID	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

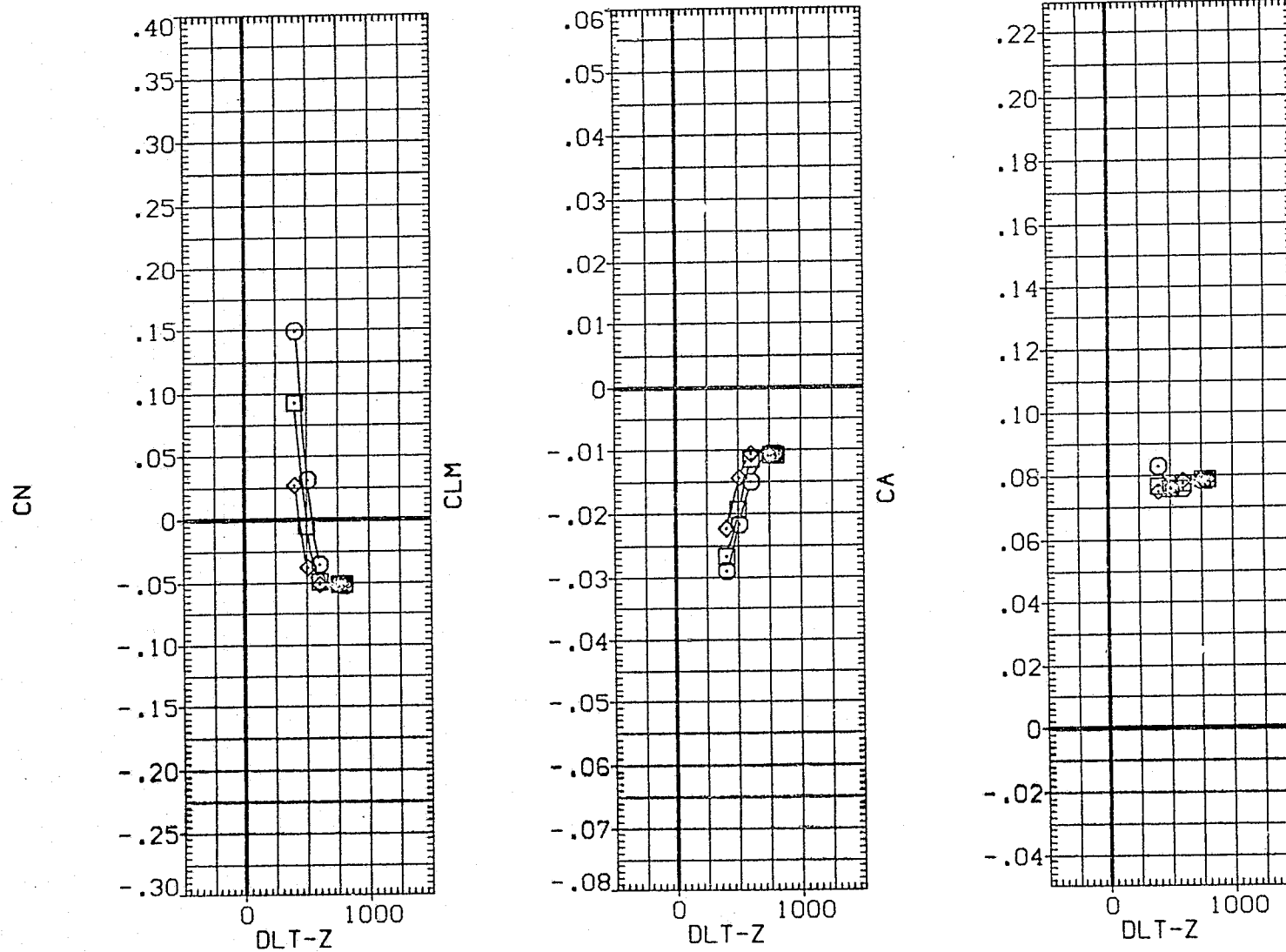


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR010)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.557	.000	ALPHA	.000
□	200.450	BETA	3.000	DLTALF -10.000
◇	400.470	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

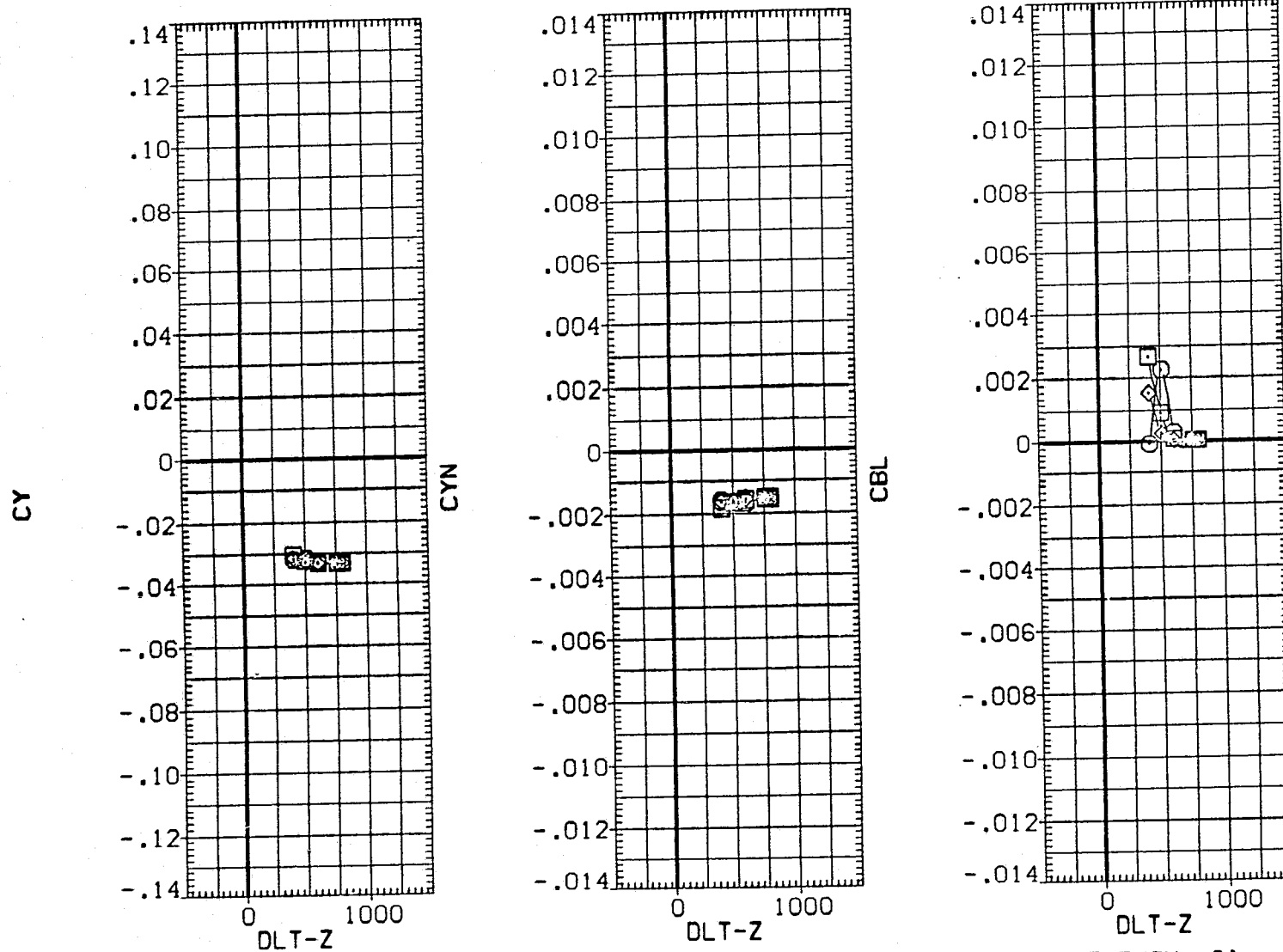


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR011)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.547	.000	ALPHA	.000
□	200.490	3.000	DLTALF	-15.000
◇	400.480	.000	MACH	5.930
		.000	ELEVON	.000
		3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

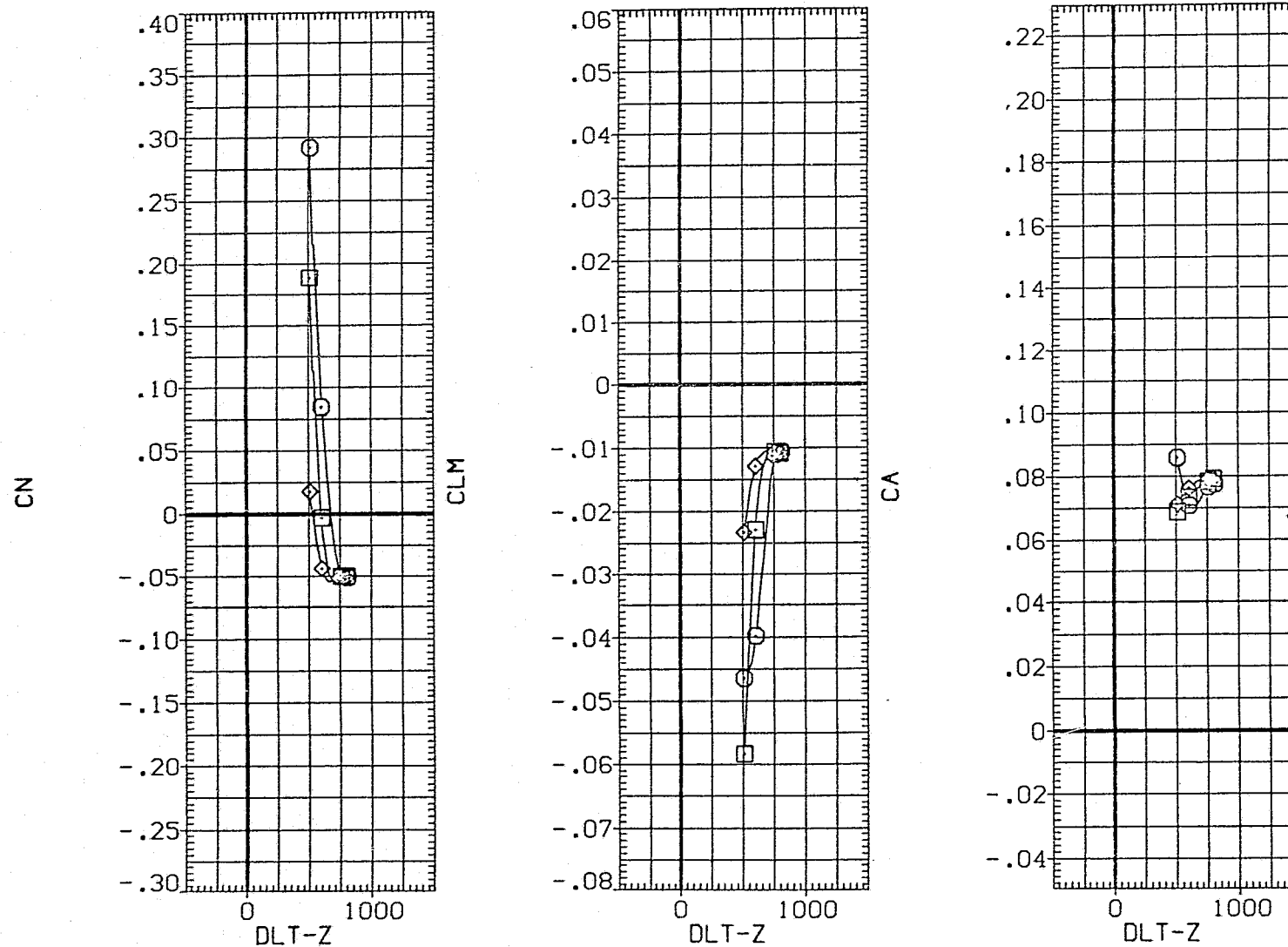


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR011)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.547	.000	ALPHA	.000
□	200.490	BETA	3.000	DLTALF -15.000
◇	400.480	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
SCALE	375.0000	IN. Z0

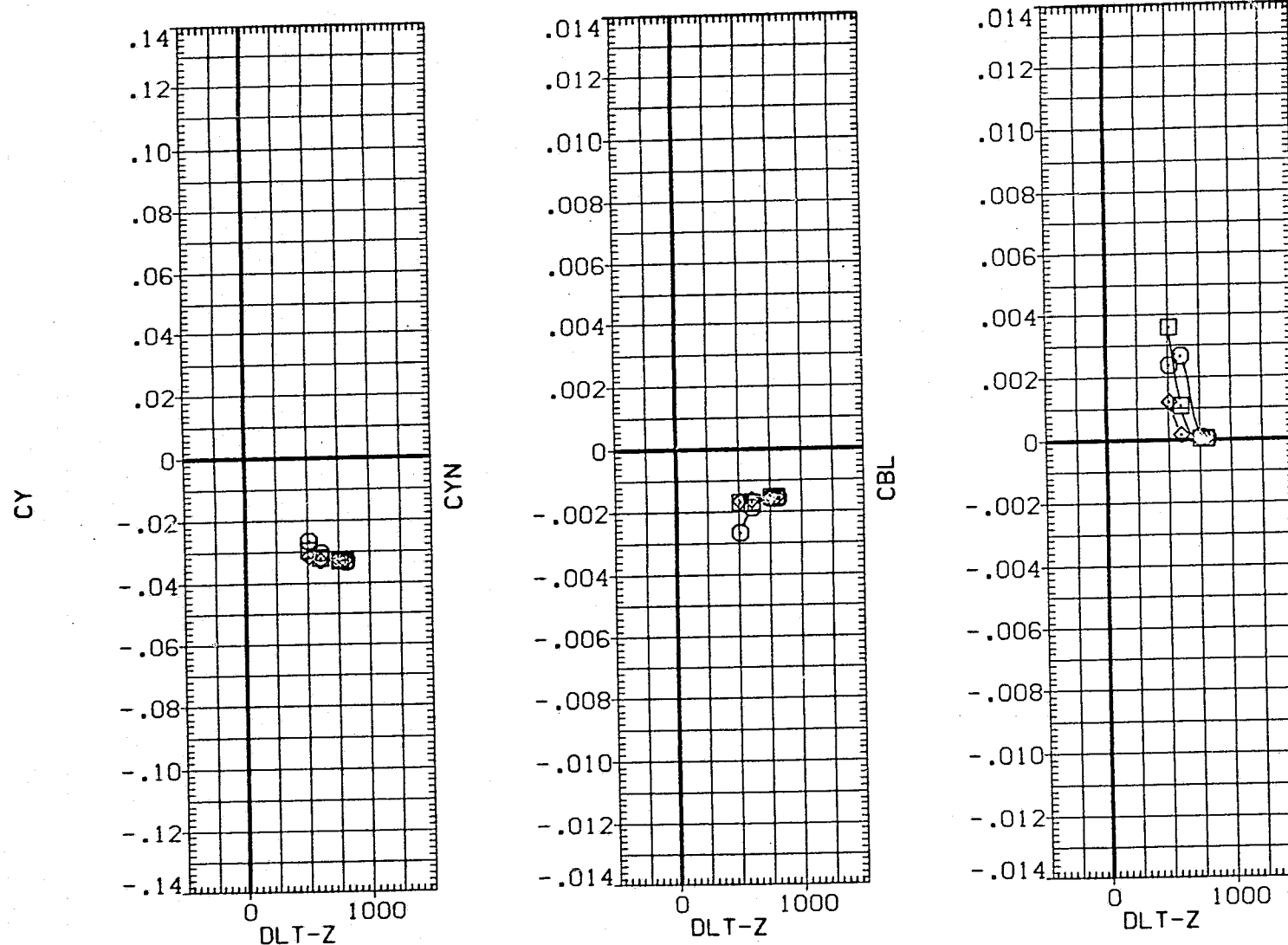


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR012)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.689	BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

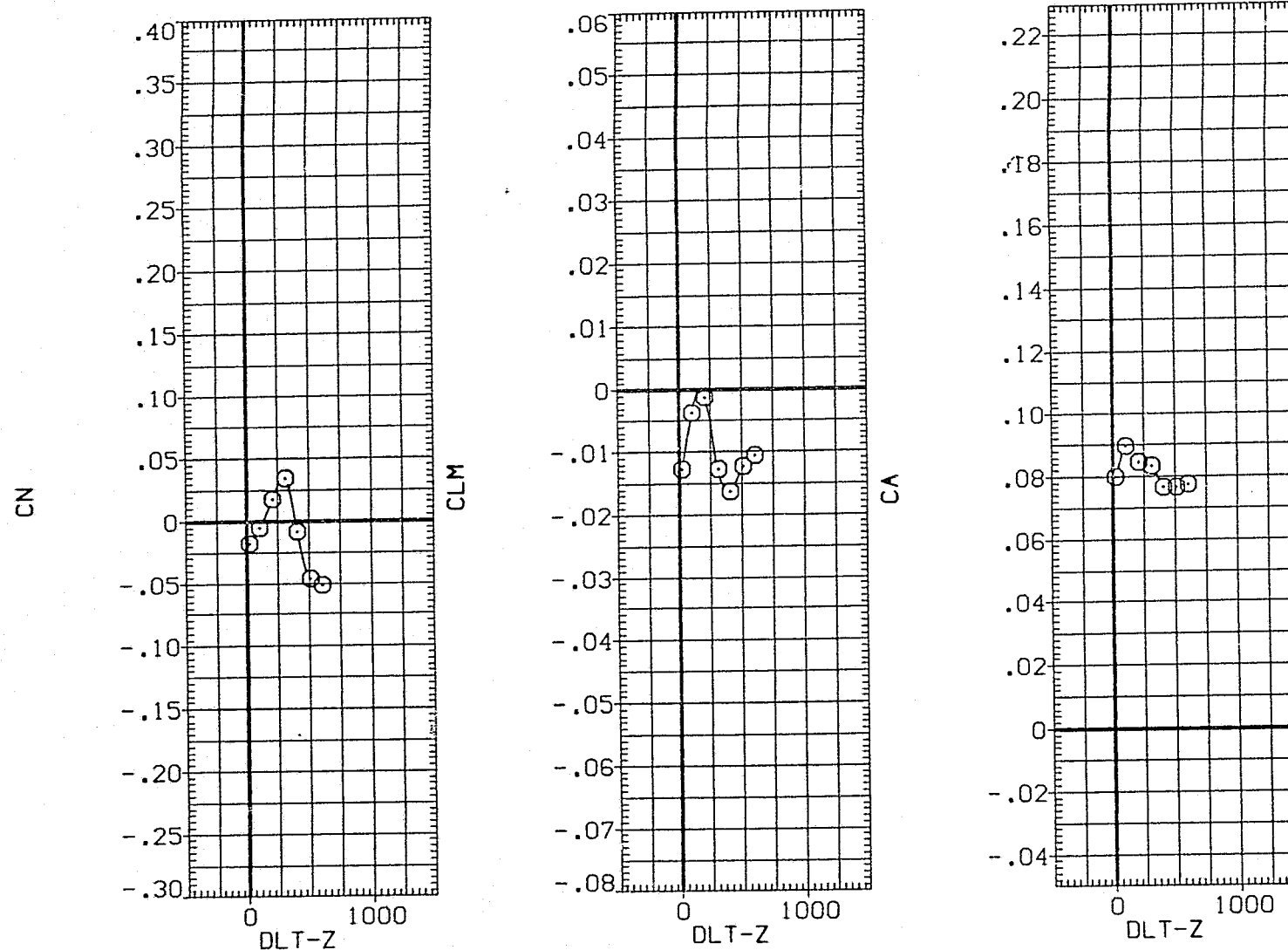


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR012)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	ATLRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
O	.689							.000	.000	5.930	.000
			3.000	.000	.000	3.000					

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

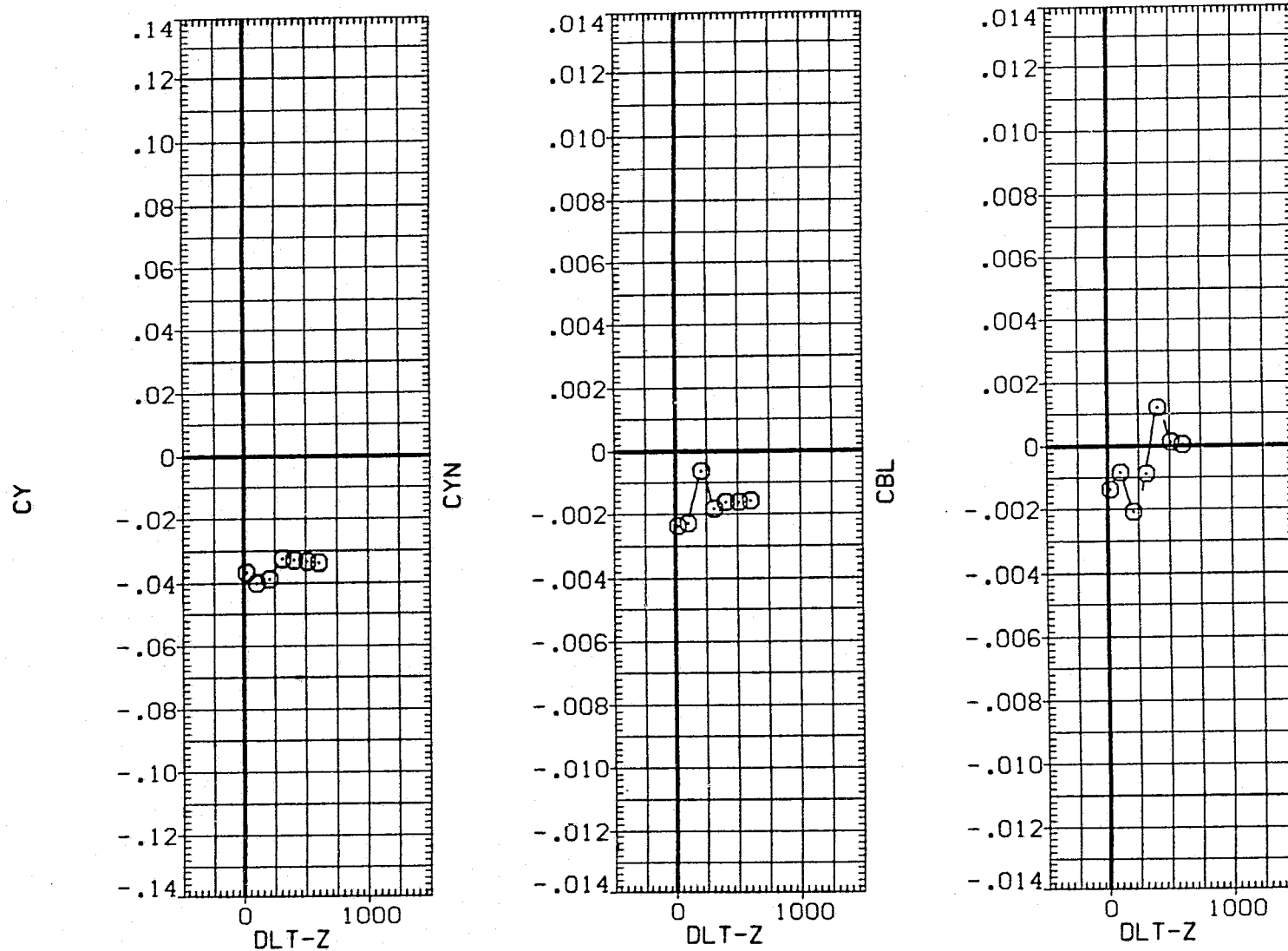


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR013)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.584	.000	ALPHA	.000	
□	200.490	3.000	DLTALF	.000	
◇	400.530	.000	MACH	5.930	
		.000	ELEVON	.000	
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

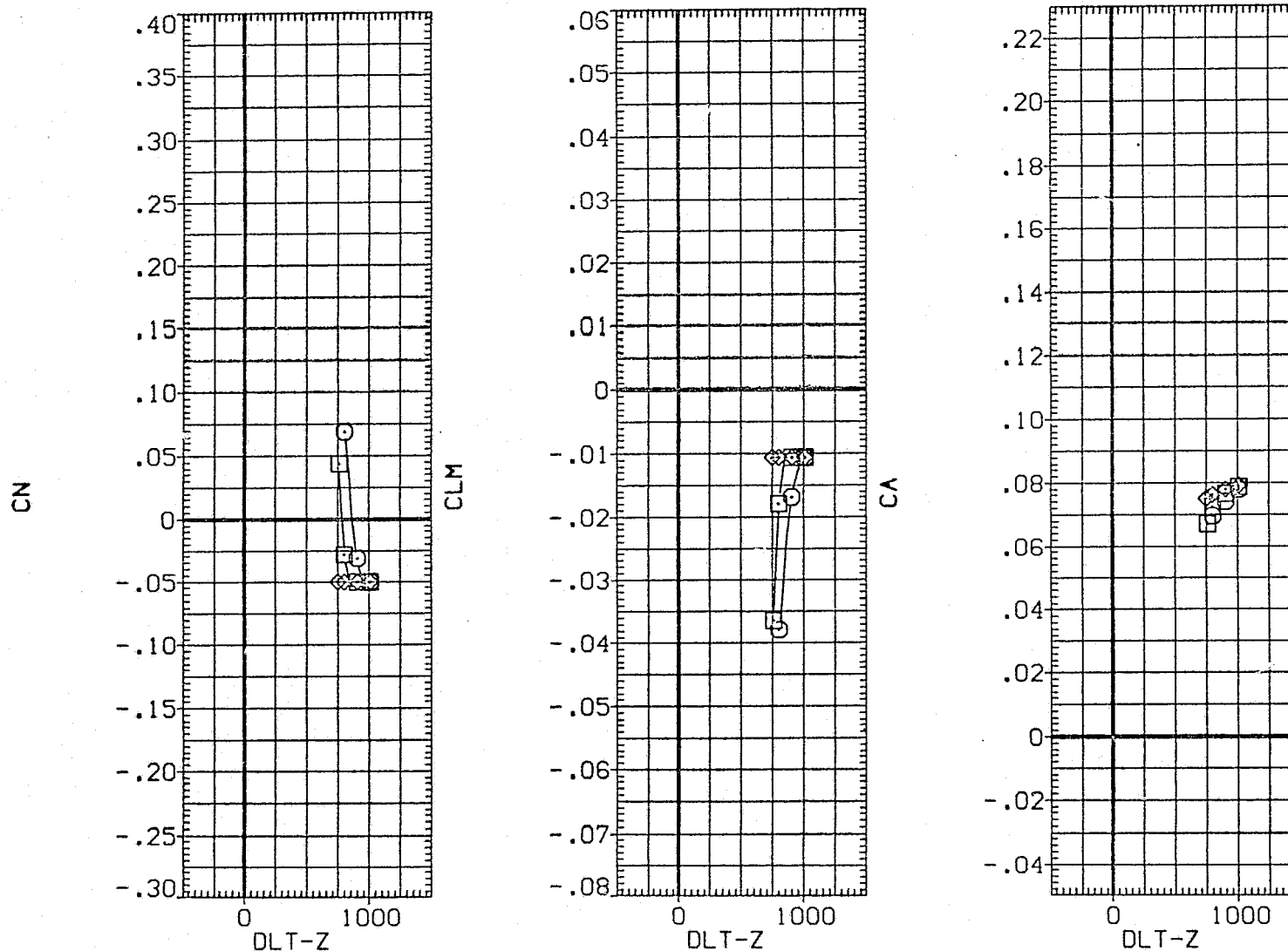


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AE DC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTRO13)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.584	.000	BETA	3.000	.000
□	200.490	.000	DLTBT	.000	.000
◇	400.530	.000	AILRON	.000	5.930
		GRID	3.000	ELEVON	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

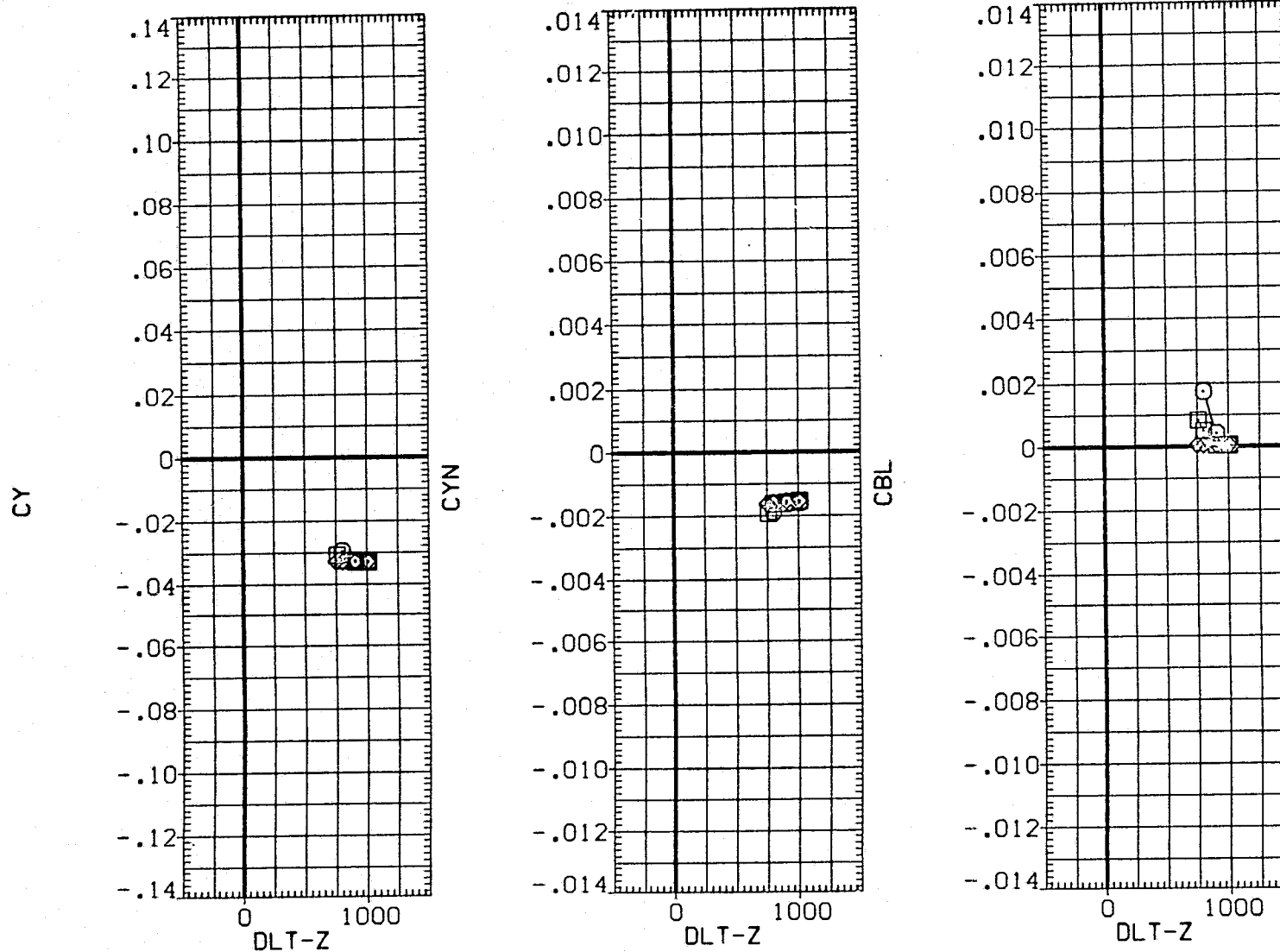


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTRO14)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.505	.000	ALPHA	5.000
□	200.600	.000	DLTALF	.000
◇	400.530	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
REF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

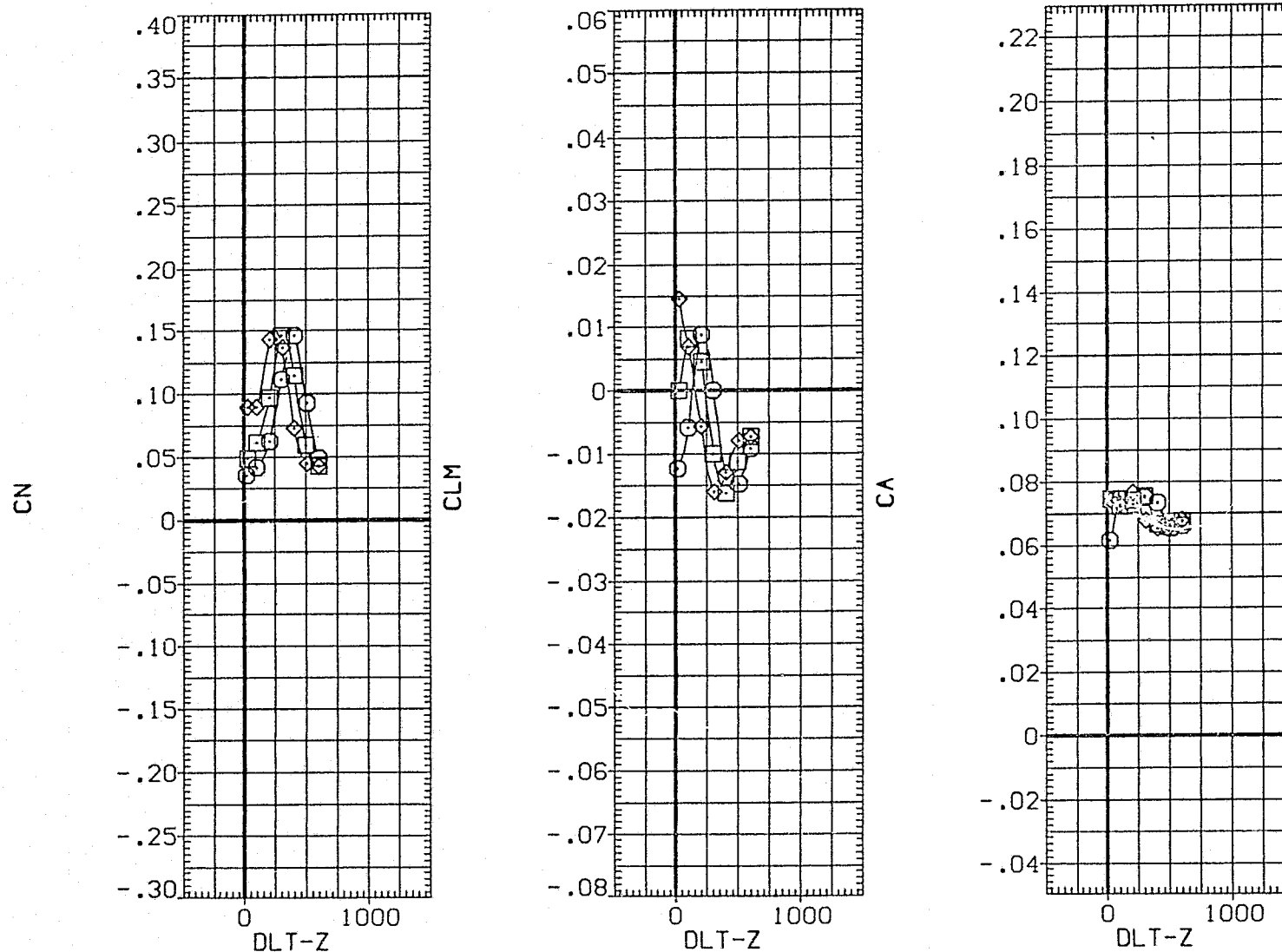


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR014)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.505	.000	ALPHA	5.000
□	200.600	.000	DLTALF	.000
◇	400.530	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

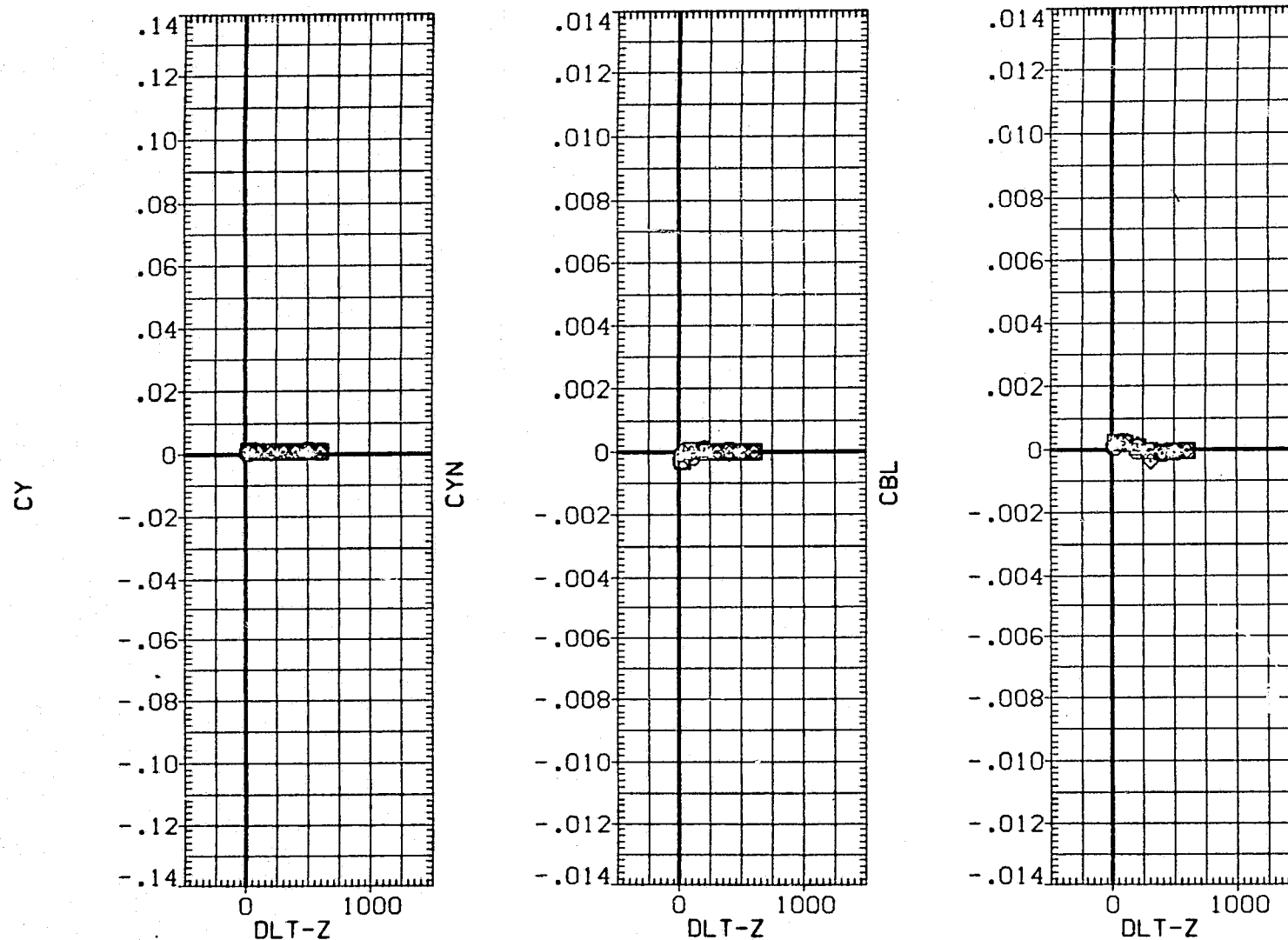


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR015)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	5.000
○	.596	BETA	.000	DLTALF	-5.000
□	200.590	DLTBTA	.000	MACH	5.930
		ATLRON	.000	ELEVON	.000
		GRID	5.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRF	1089.6000 IN. X0
YMRF	.0000 IN. Y0
ZMRF	375.0000 IN. Z0
SCALE	.0100

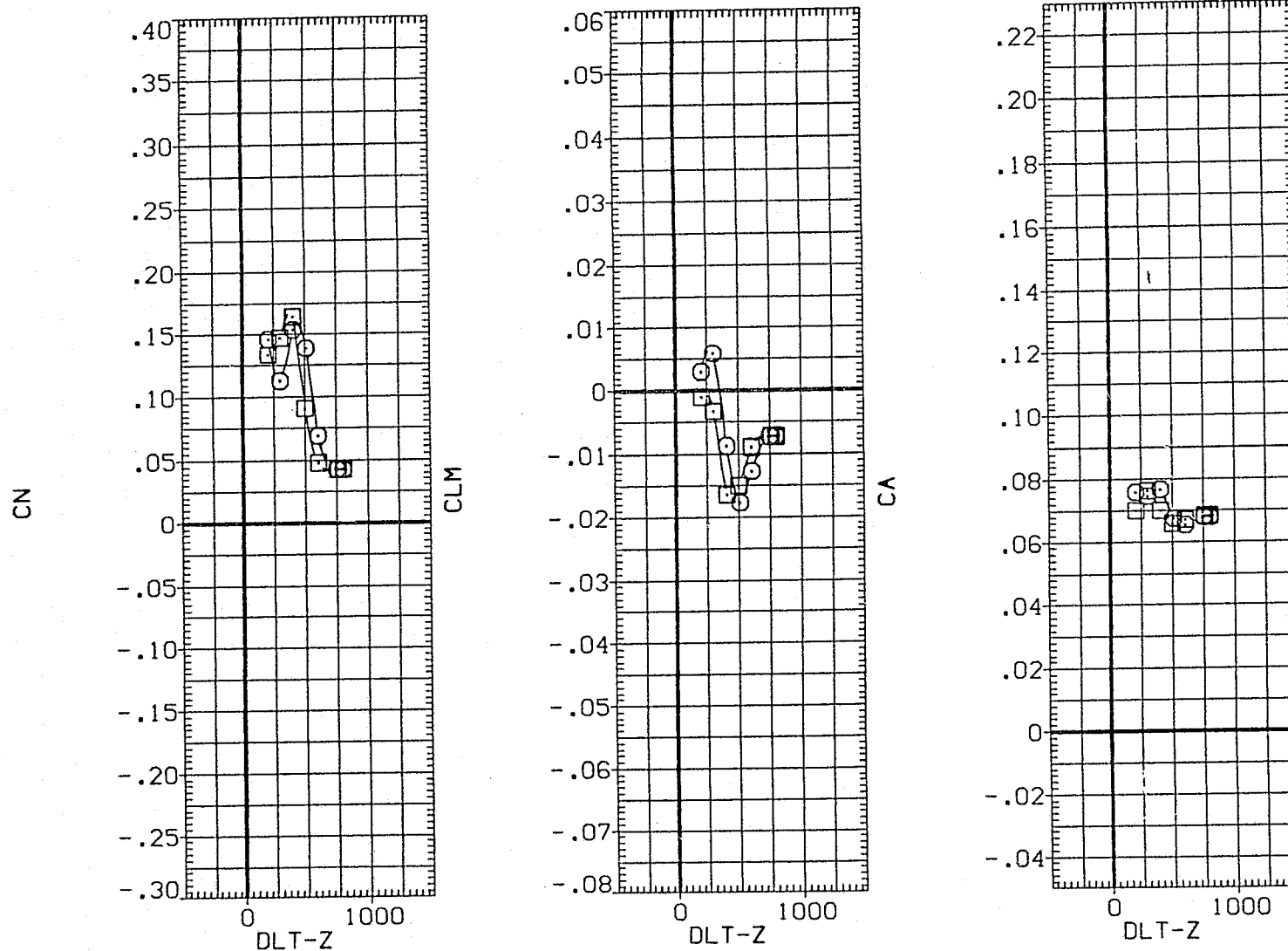


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR015)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.596	BETA	.000	5.000
□	200.590	DLTBTA	.000	-5.000
		AILRON	.000	5.930
		GRID	5.000	.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

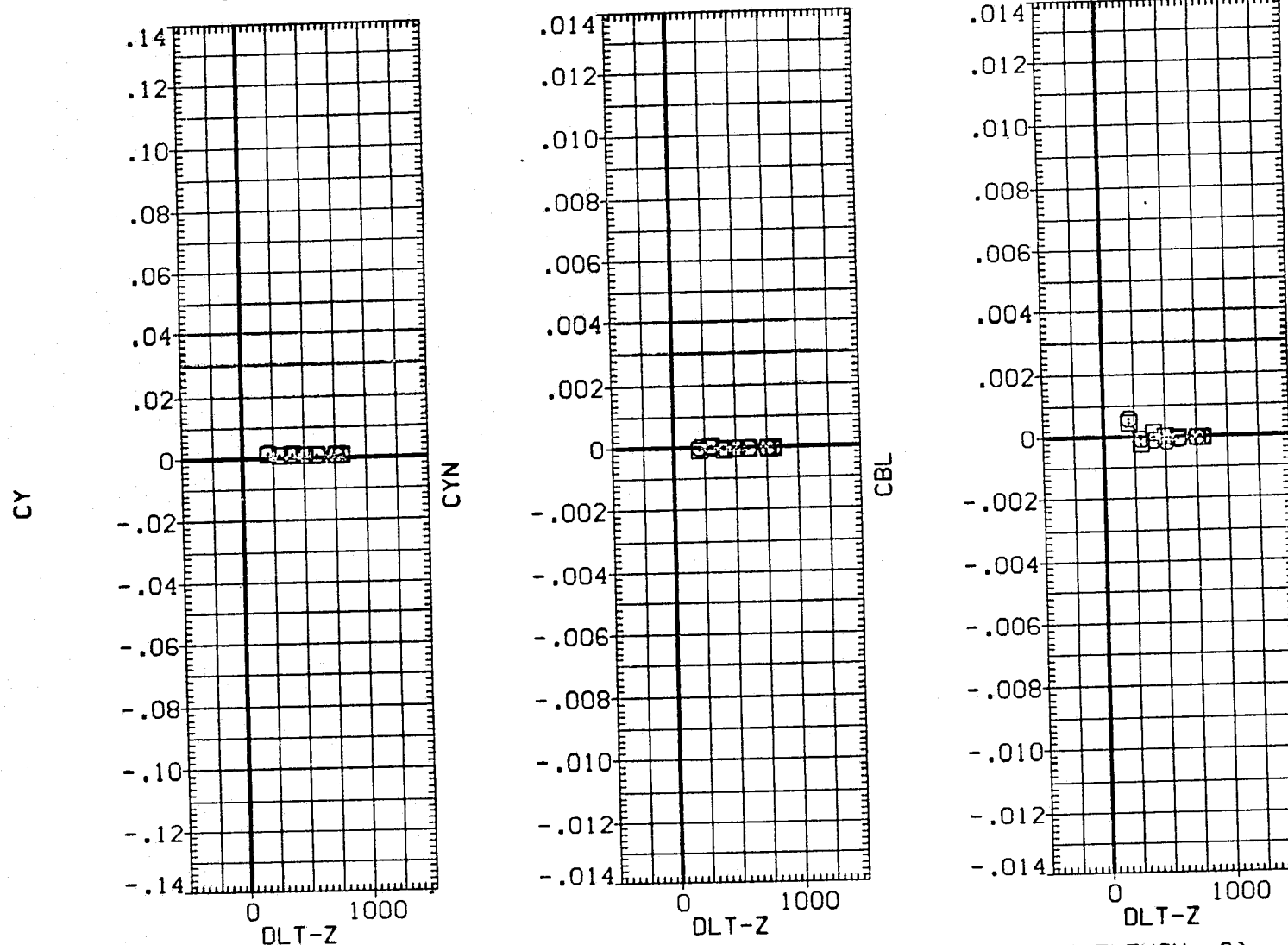


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR016)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.443	.000	BETA	5.000
□	200.480	.000	DLTALF	-10.000
◇	400.520	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

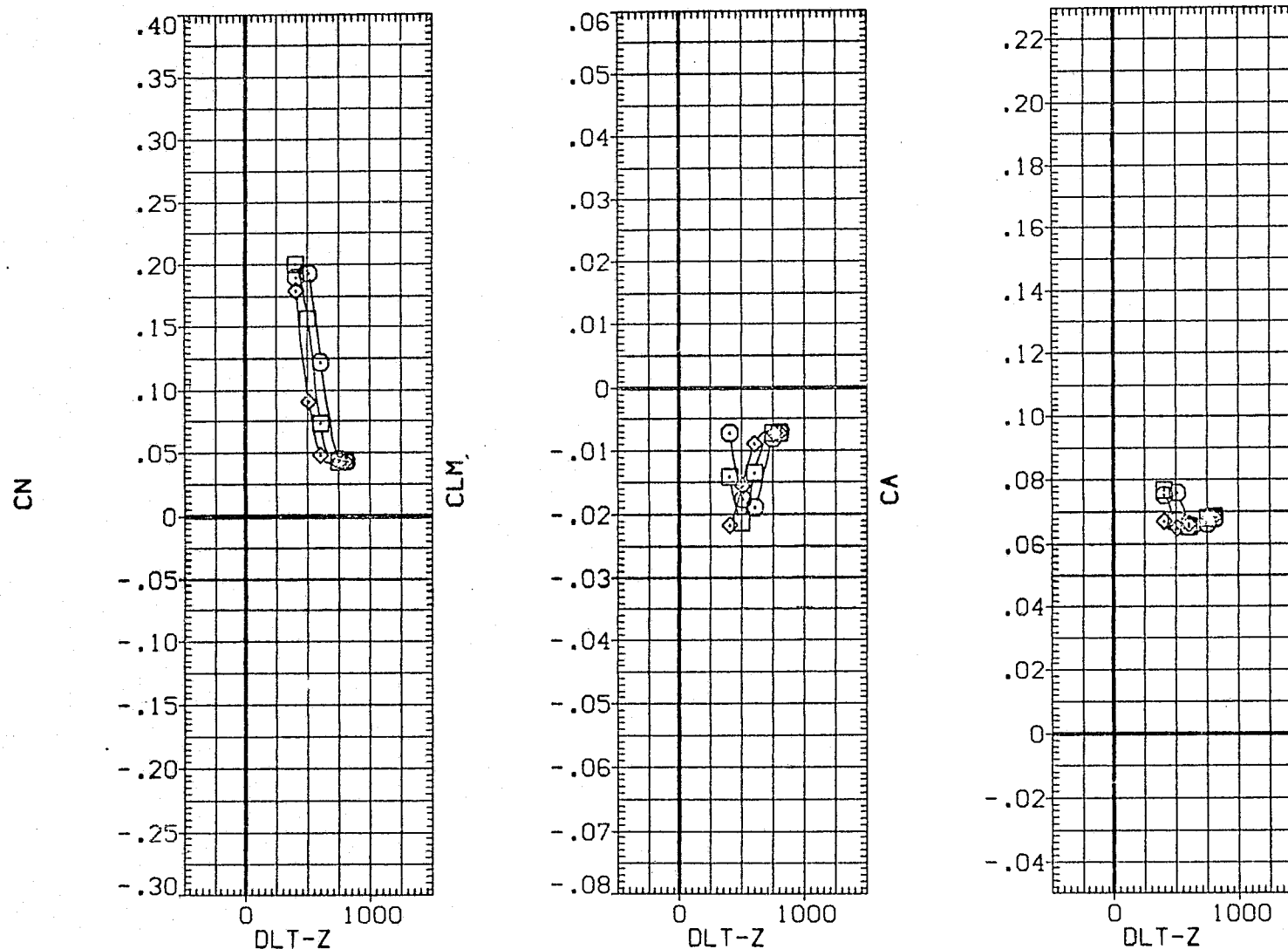


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR016)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.443	.000	ALPHA	5.000
□	200.480	.000	DLTALF	-10.000
◇	400.520	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

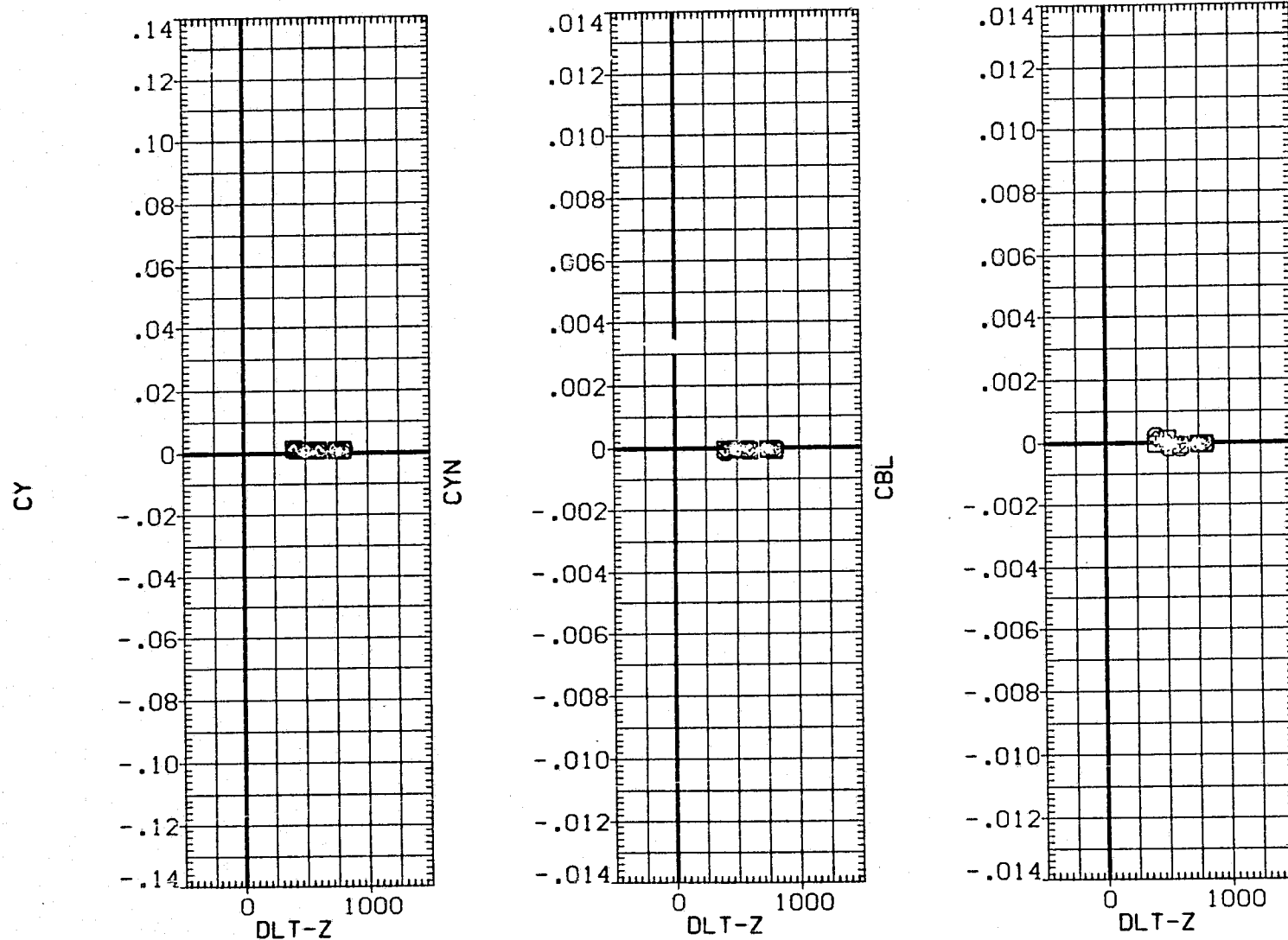


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR017)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.497		.000	5.000		
□	200.470		.000	-15.000		
◇	400.420		.000	5.930		
			.000		.000	
			.000			
			5.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

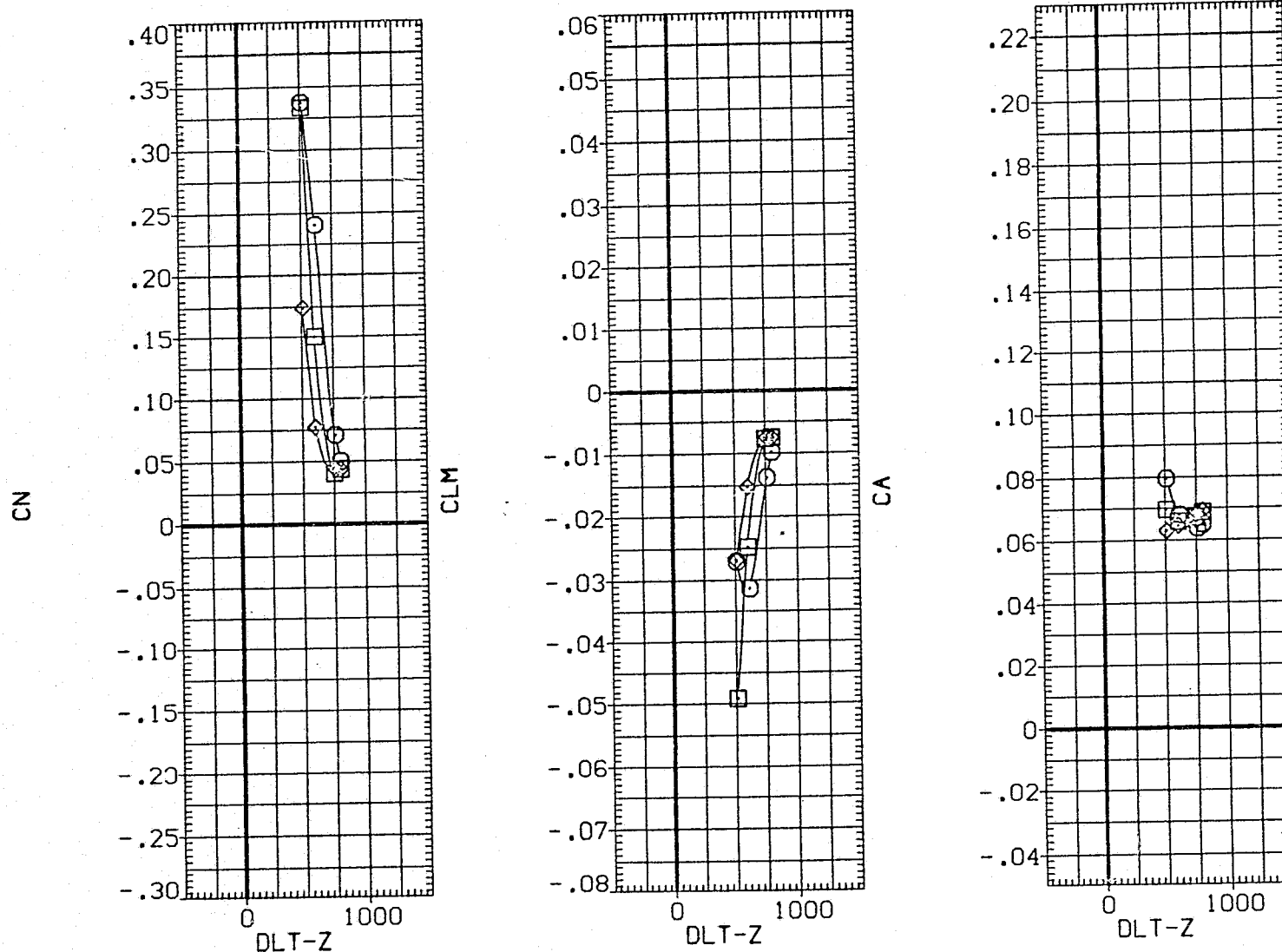


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR017)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.497	.000	5.000	-15.000
□	200.470	.000	5.930	.000
◇	400.420	.000	5.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

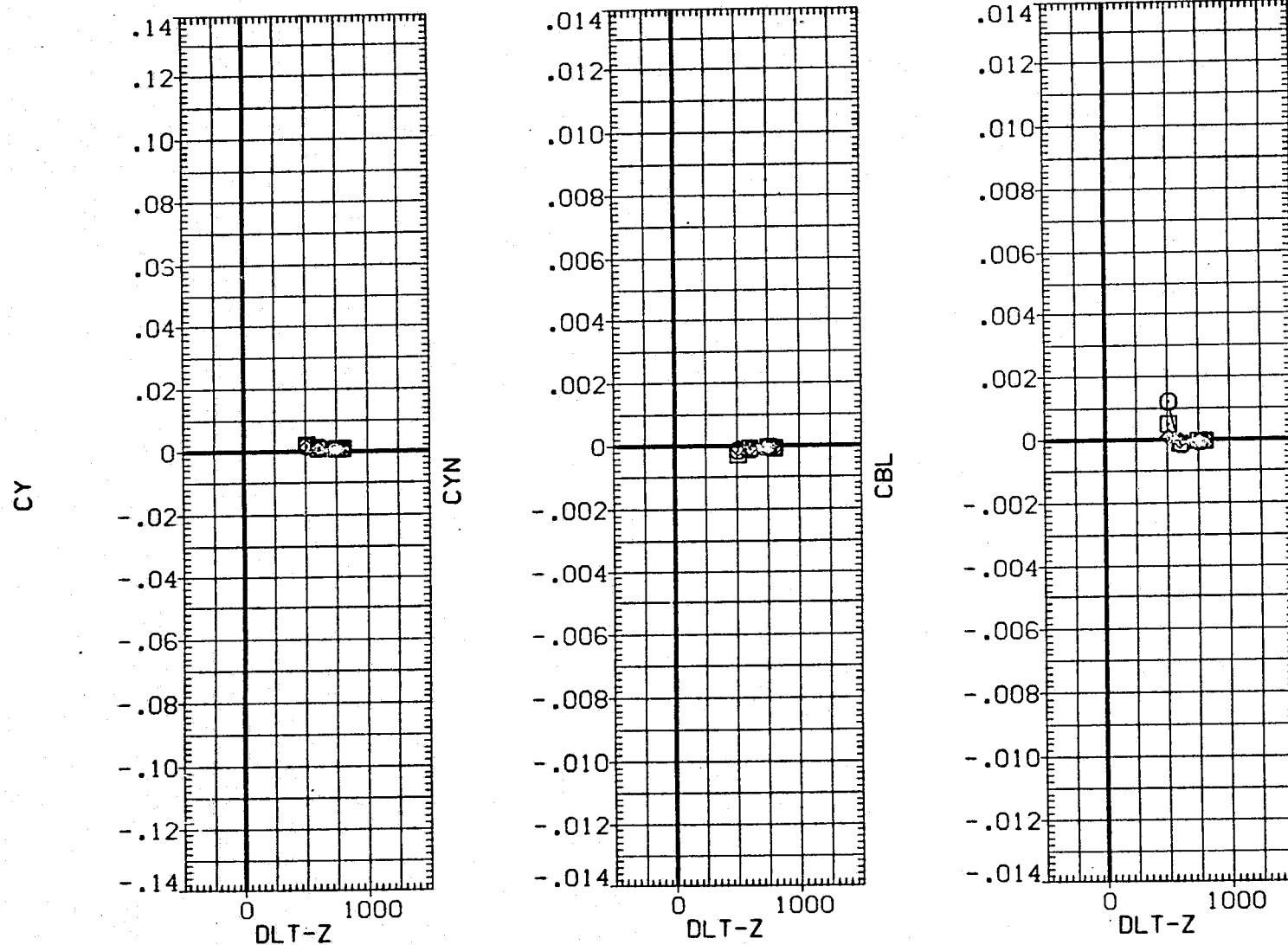


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR019)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.476	DLT-Y	.000
□	200.380	BETA	3.000
◇	400.470	DLTBTA	.000
		ATLRON	.000
		GRID	5.000
		ALPHA	5.000
		DLTALF	-20.000
		MACH	5.930
		ELEVON	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

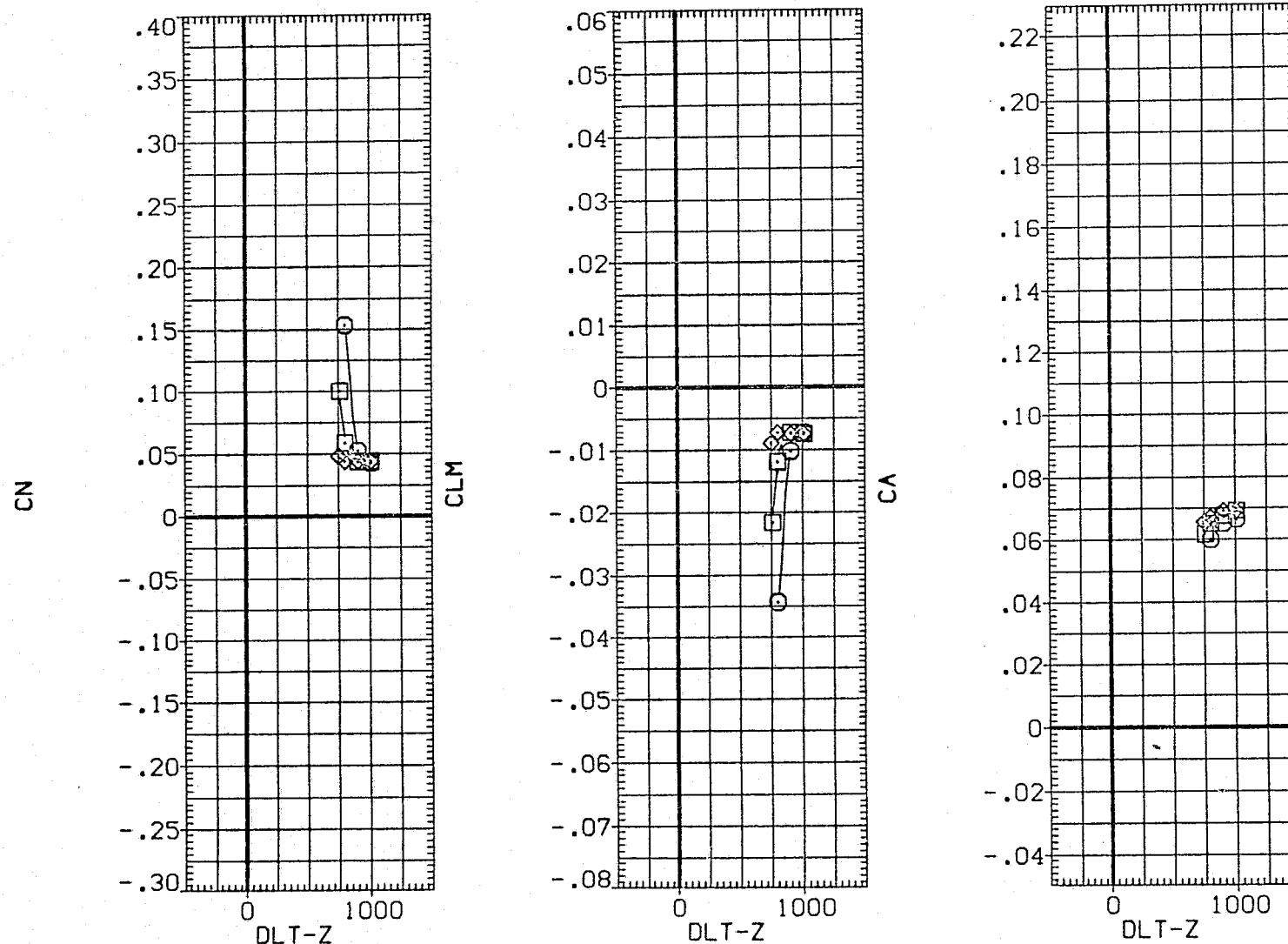


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR019)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.476	BETA	.000	ALPHA
□	200.380	DLTBT	3.000	DLTALF
◇	400.470	AILRON	.000	MACH
		GRID	.000	ELEVON
			5.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

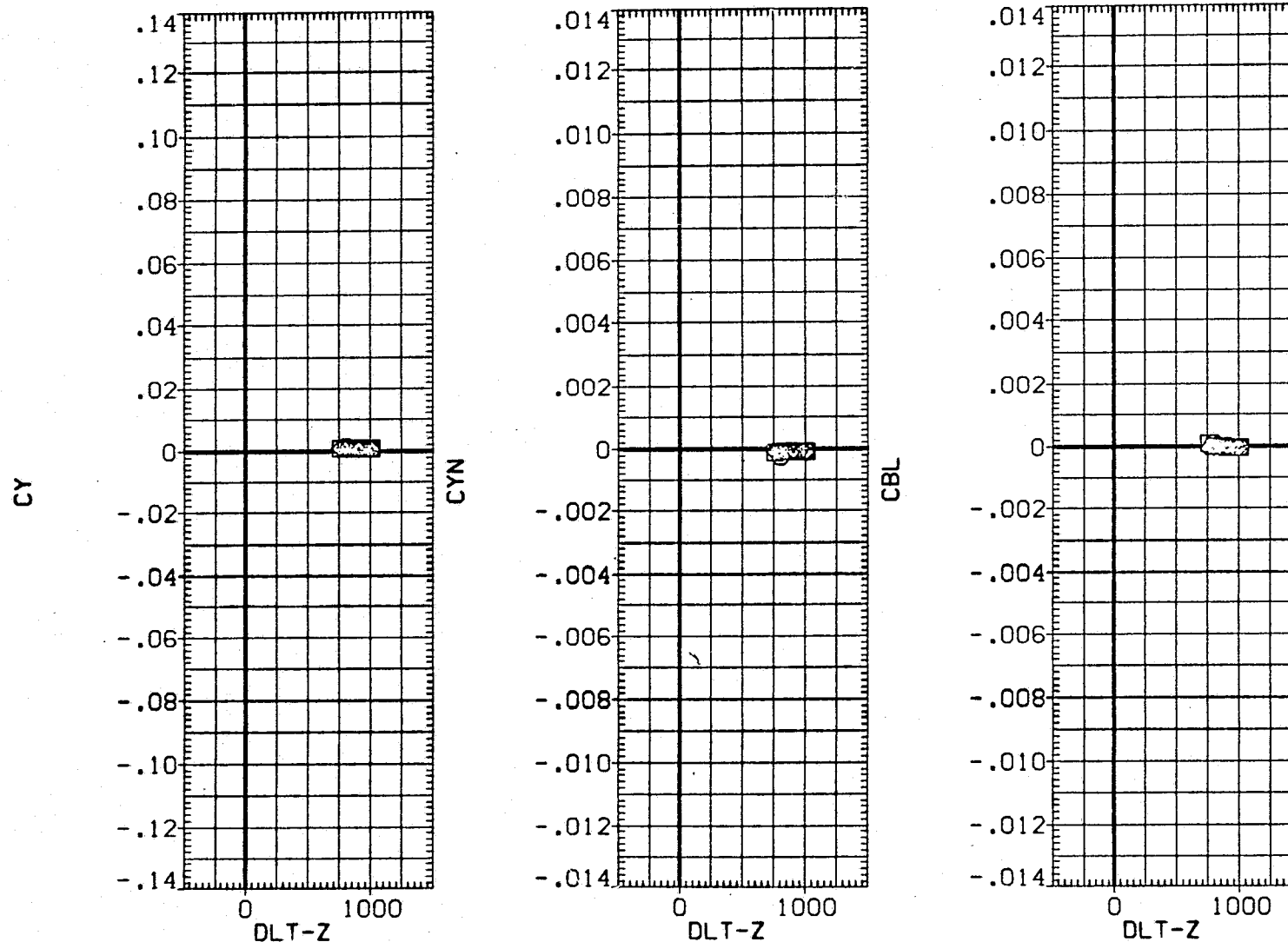


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR020)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.564	BETA	.000	ALPHA
□	200.620	DLTBTA	3.000	DLTALF
		AILRON	.000	MACH
		GRID	.000	ELEVON
			4.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

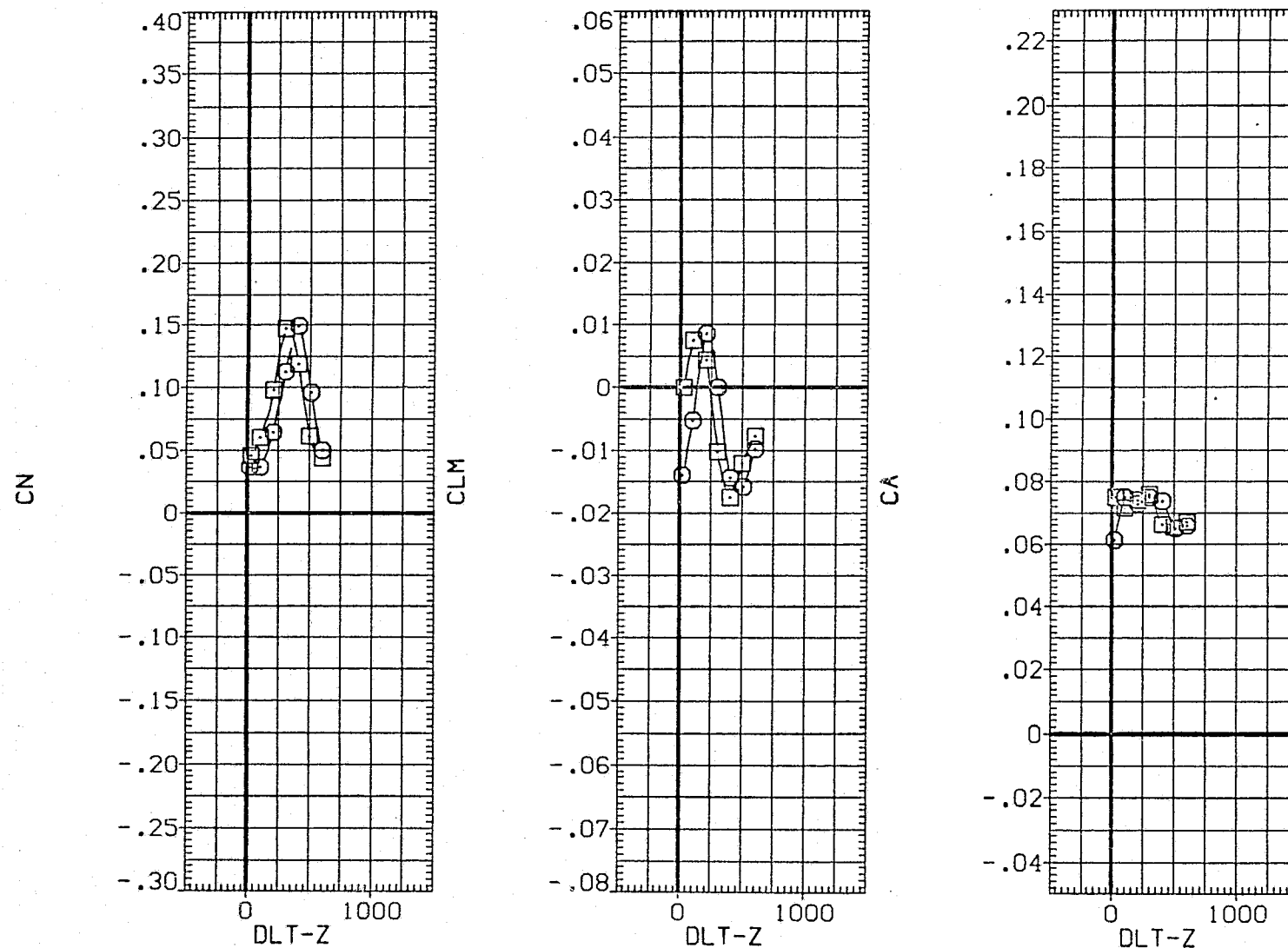


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR020)

SYMBOL
○
□

DLT-X
.564
200.620

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
.000 ALPHA
3.000 DLTALF
.000 MACH
.000 ELEVON
4.000

5.000
.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

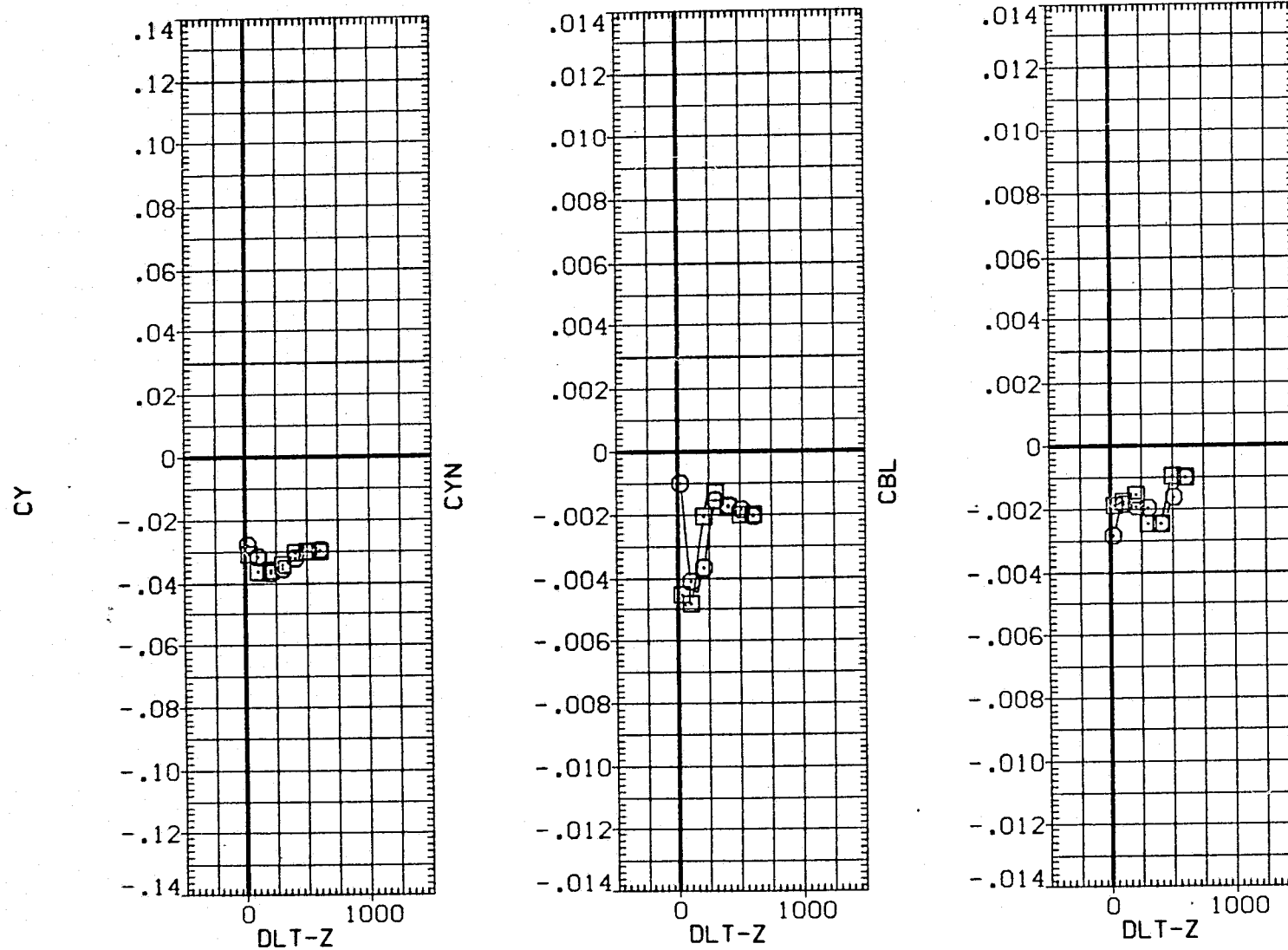


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR021)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.641	.000	ALPHA	5.000
□	200.610	3.000	DLTALF	-5.000
		.000	MACH	5.930
		.000	ELEVON	.000
		4.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

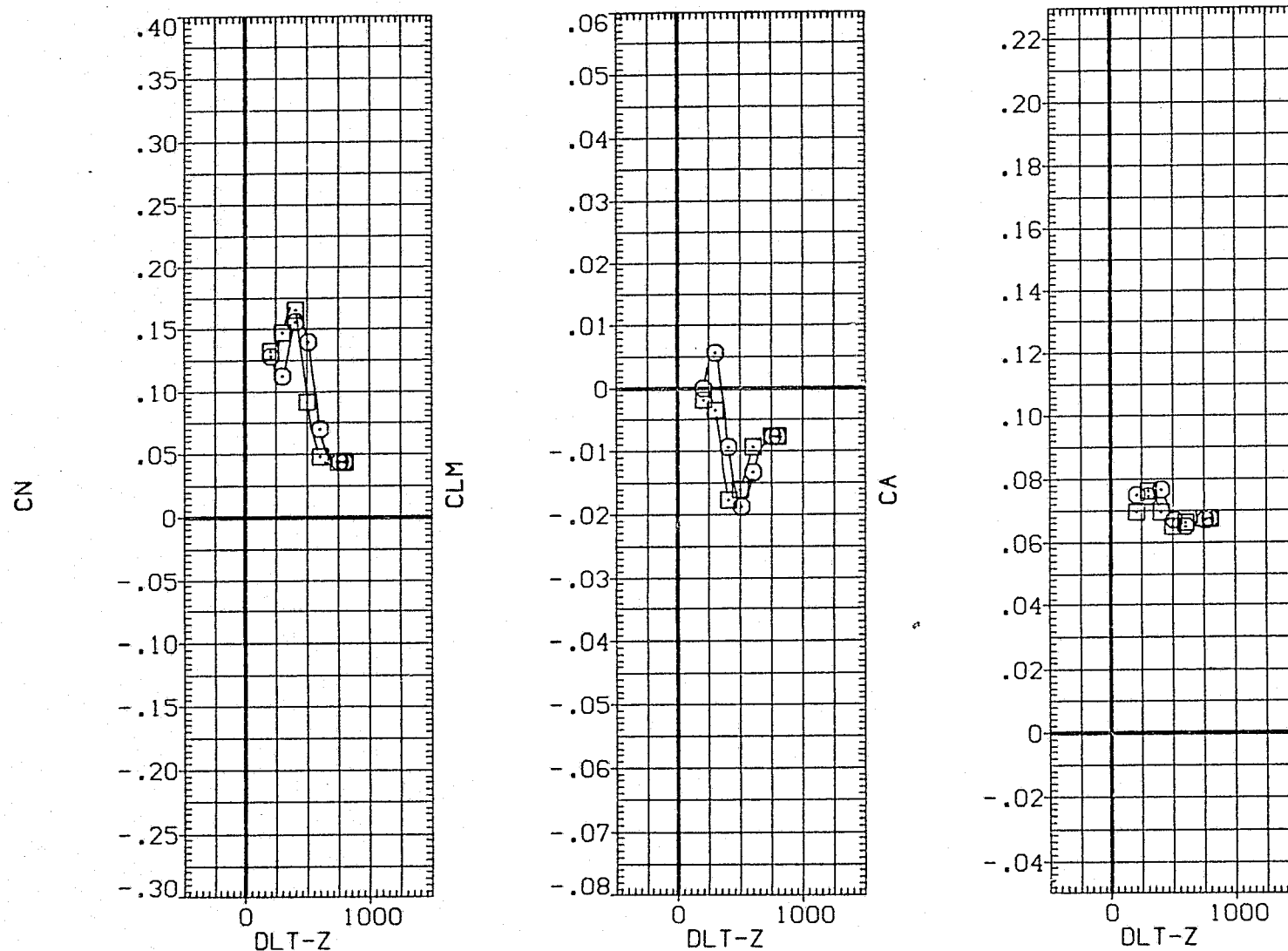


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR021)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.641	.000	ALPHA	5.000
□	200.610	3.000	DLTALF	-5.000
		.000	MACH	5.930
		.000	ELEVON	.000
		4.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

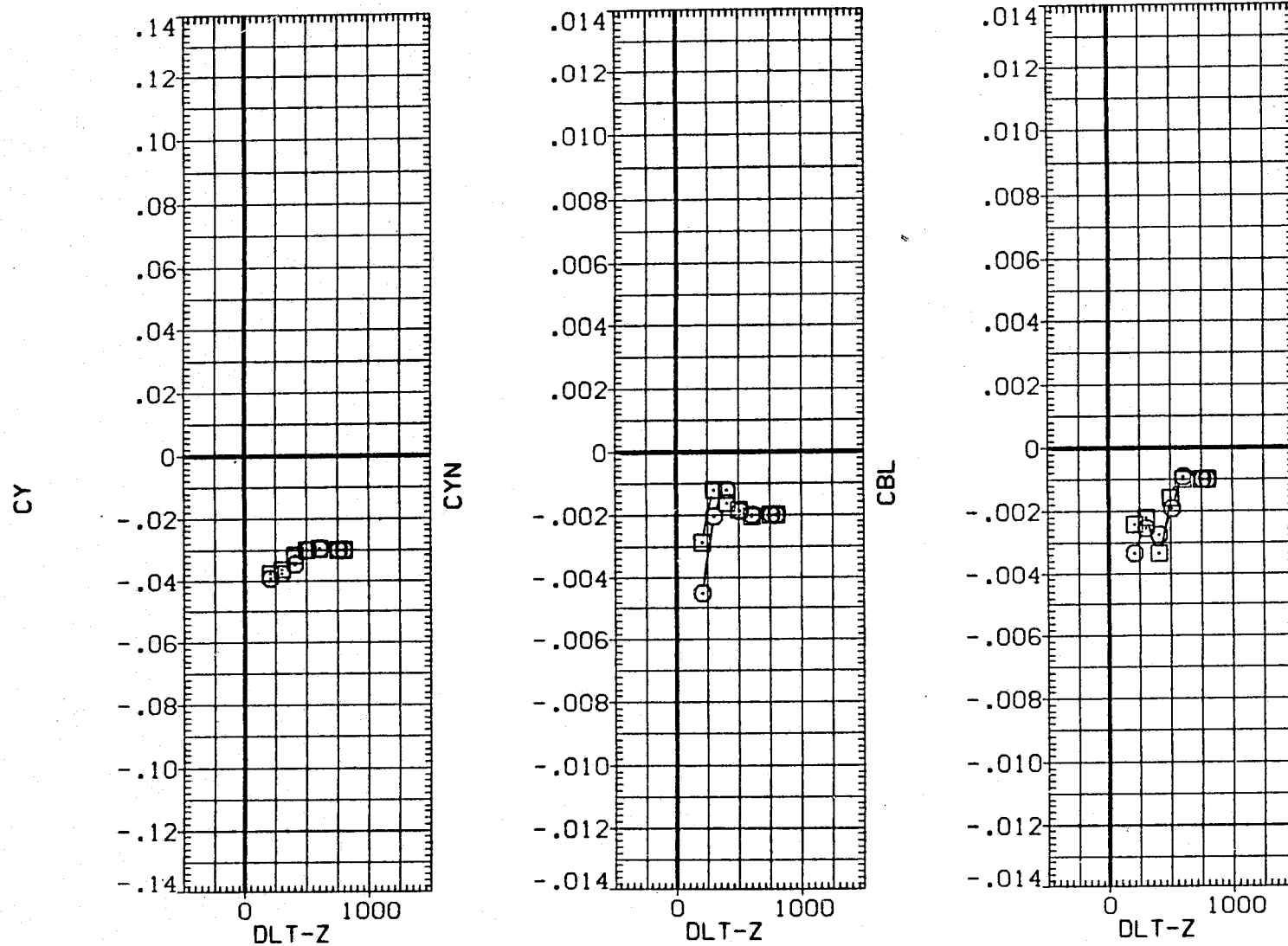


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR022)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.590	.000	ALPHA	5.000
□	200.450	BETA	3.000	DLTALF -10.000
◇	400.620	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

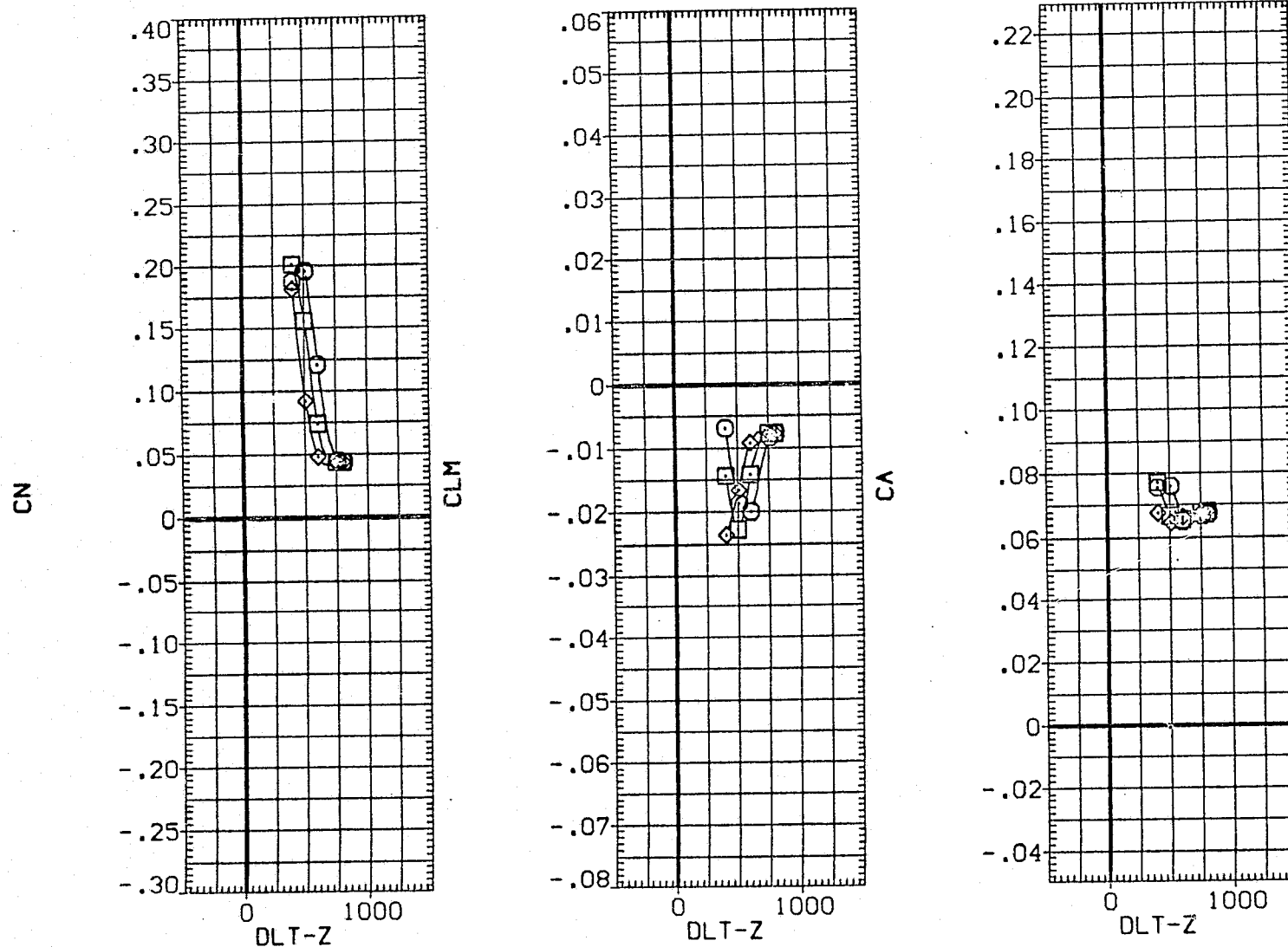


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR022)

SYMBOL	DLT-X	PARAMETRIC VALUES			
	.590	DLT-Y	.000	ALPHA	5.000
	200.450	BETA	3.000	DLTALF	-10.000
	400.620	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	4.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

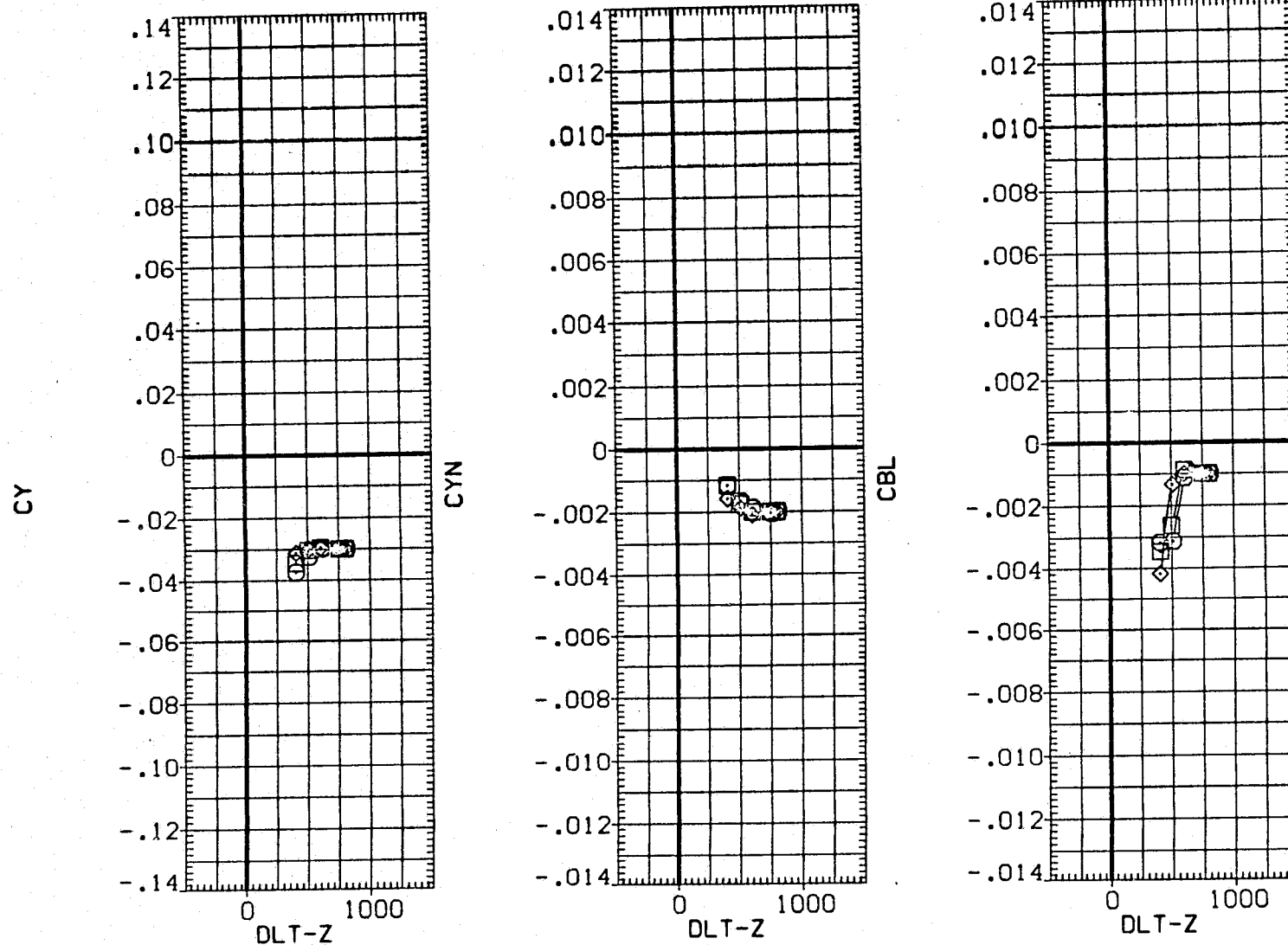


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR023)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.561		ALPHA	5.000
□	200.520	BETA	3.000	DLTALF -15.000
◇	400.510	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

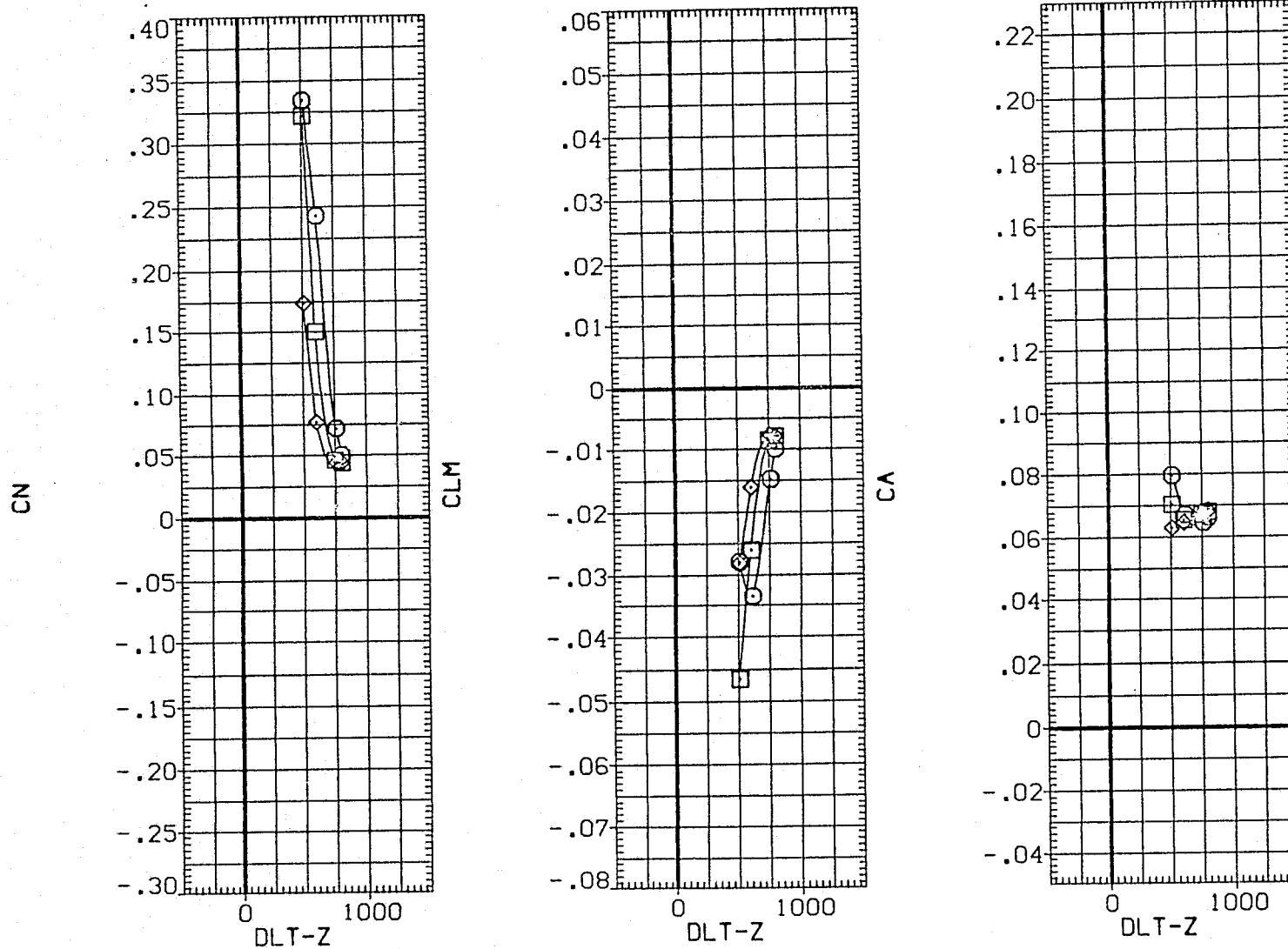


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR023)

SYMBOL
○
□
◇

DLT-X
.561
200.520
400.510

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
.000
3.000
.000
.000
4.000

ALPHA
DLTALF
MACH
ELEVON

5.000
-15.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

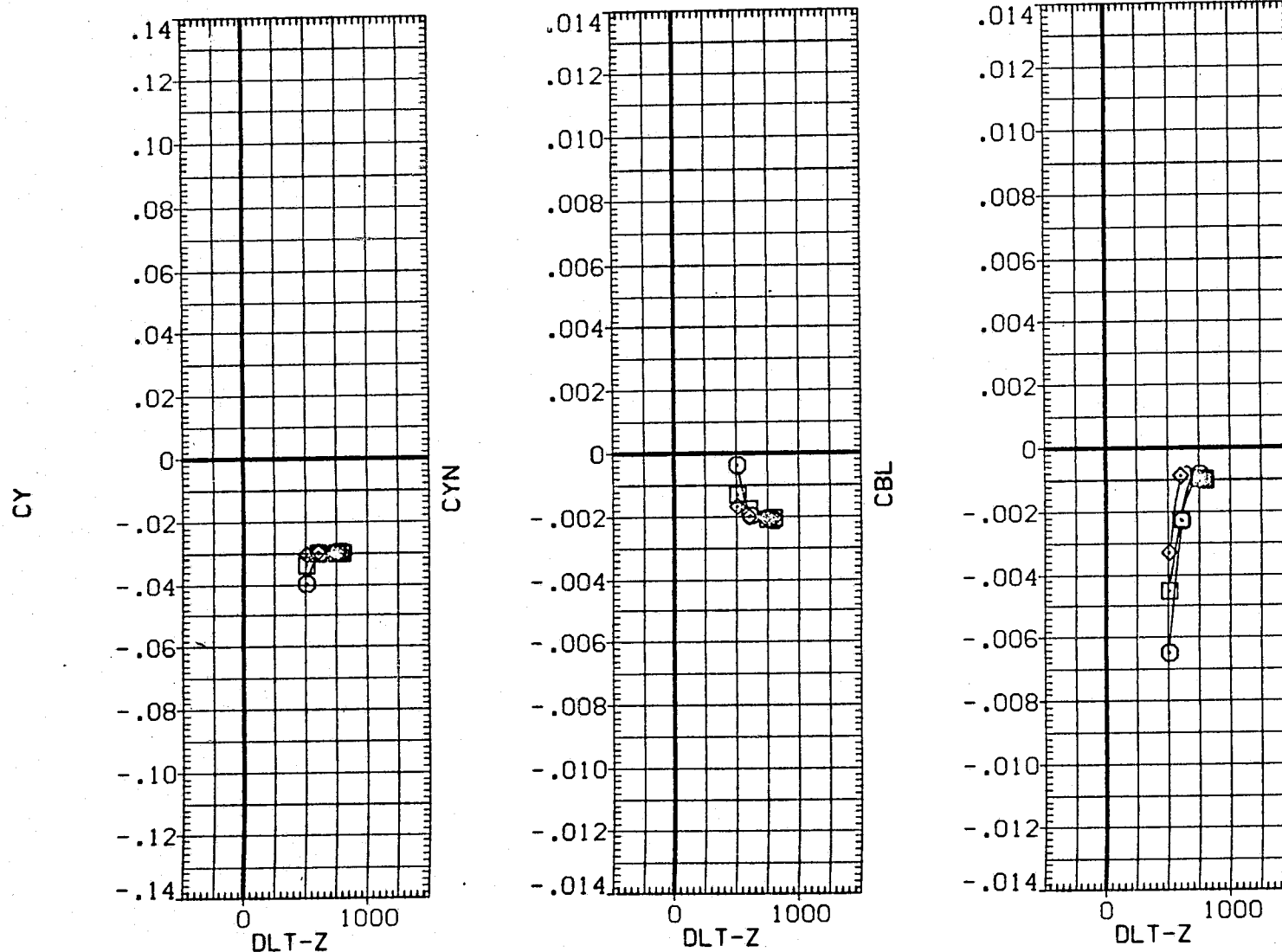


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR025)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.476	.000	ALPHA	5.000
□	200.530	3.000	DLTALF	-20.000
◇	400.570	.000	MACH	5.930
		.000	ELEVON	.000
		4.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

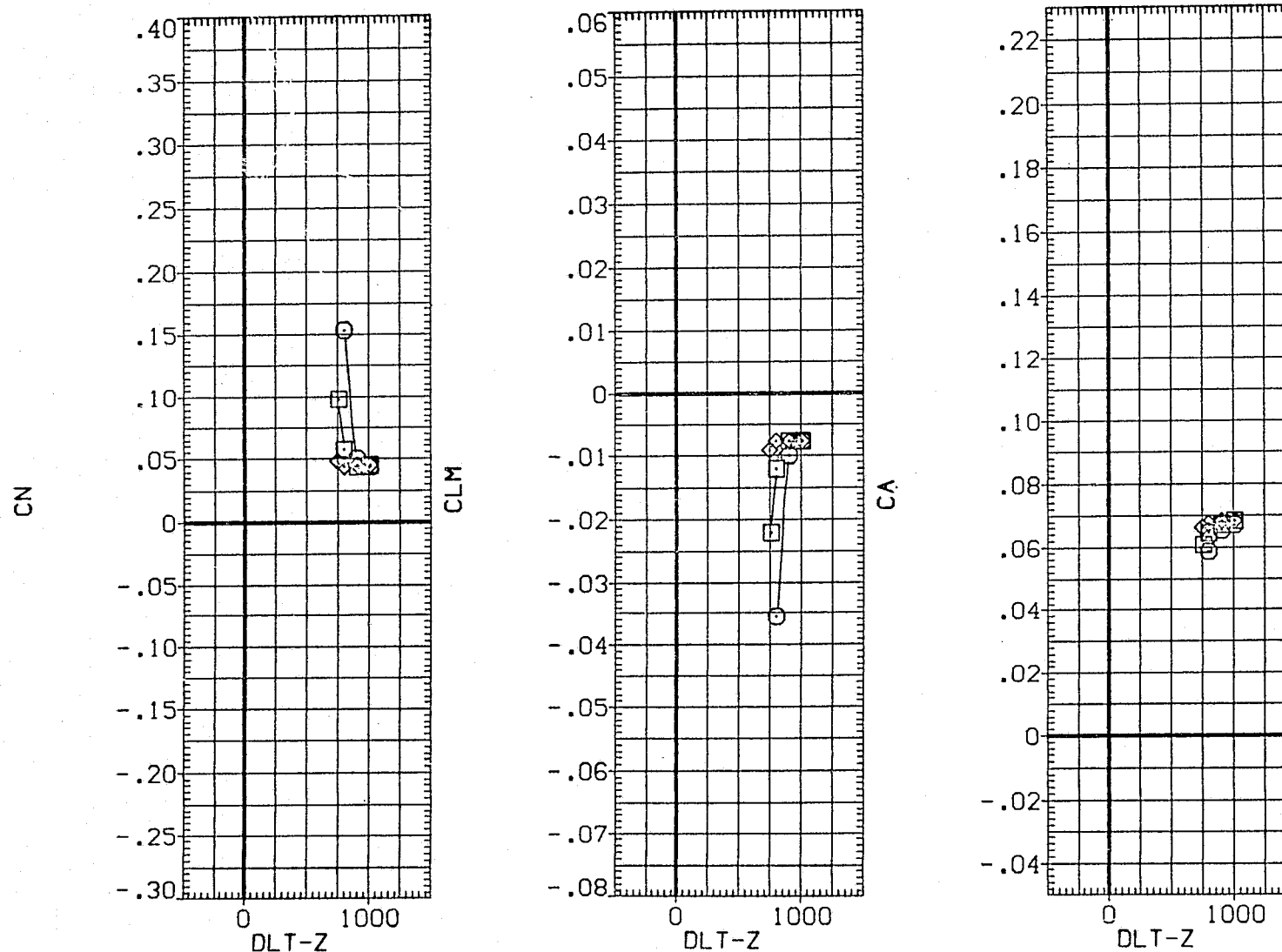


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR025)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.476	.000	ALPHA	5.000
□	200.530	3.000	DLTALF	-20.000
◇	400.570	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

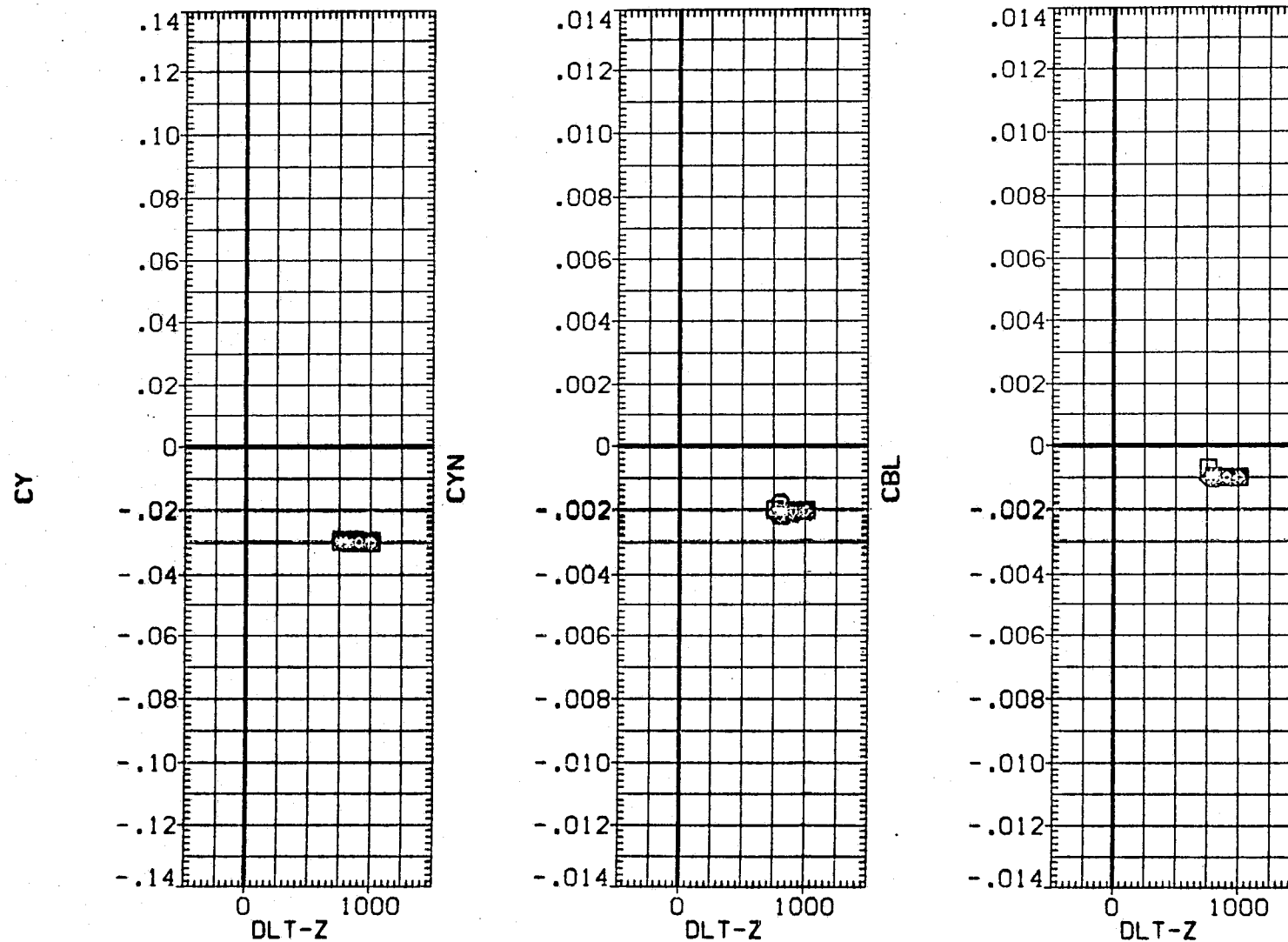


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTRO26)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.586	.000	ALPHA	-5.000
□	200.520	.000	DLTALF	.000
◇	400.650	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

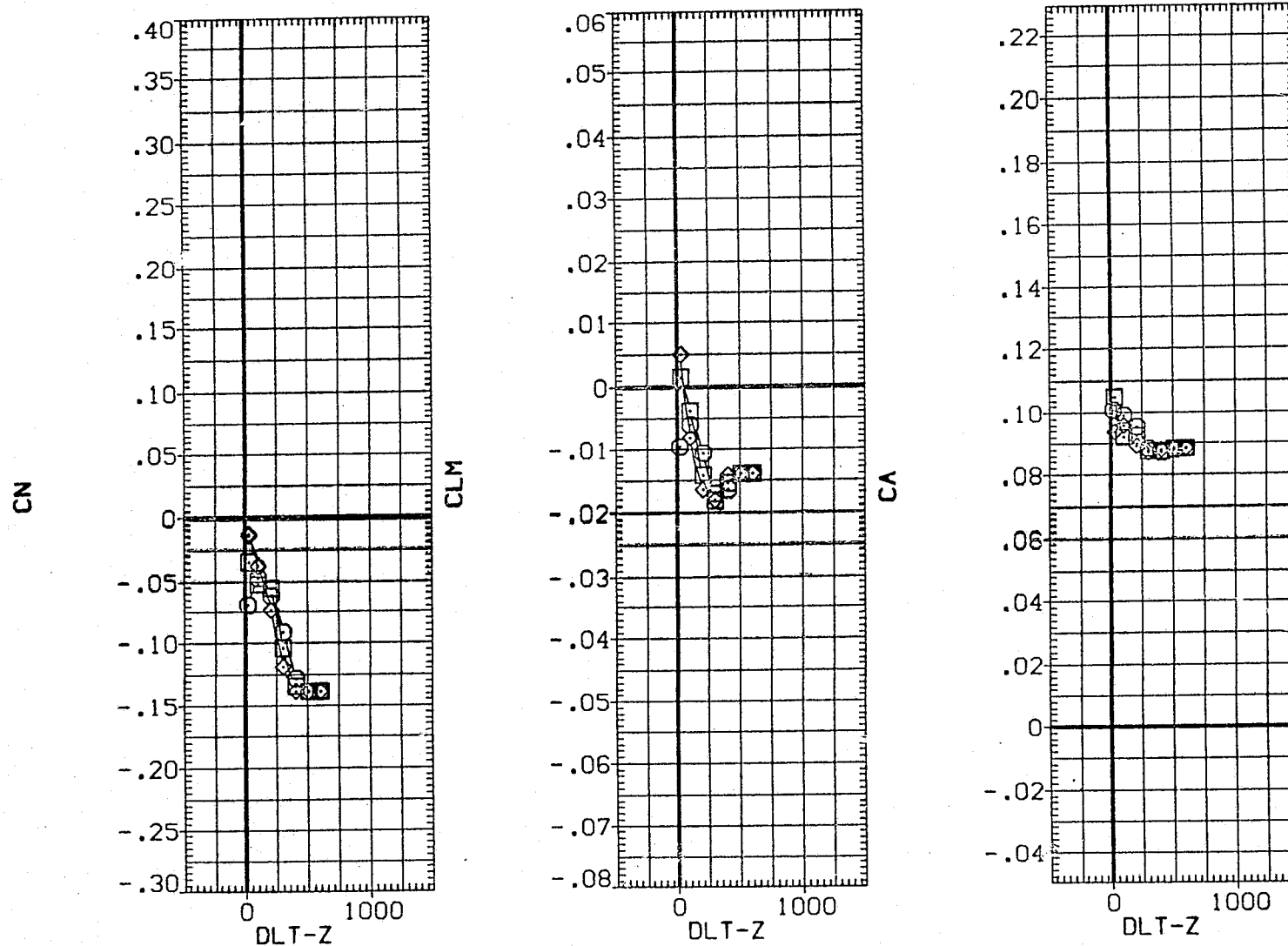


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR026)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.586	.000	ALPHA	-5.000
□	200.520	.000	DLTALF	.000
◇	400.660	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

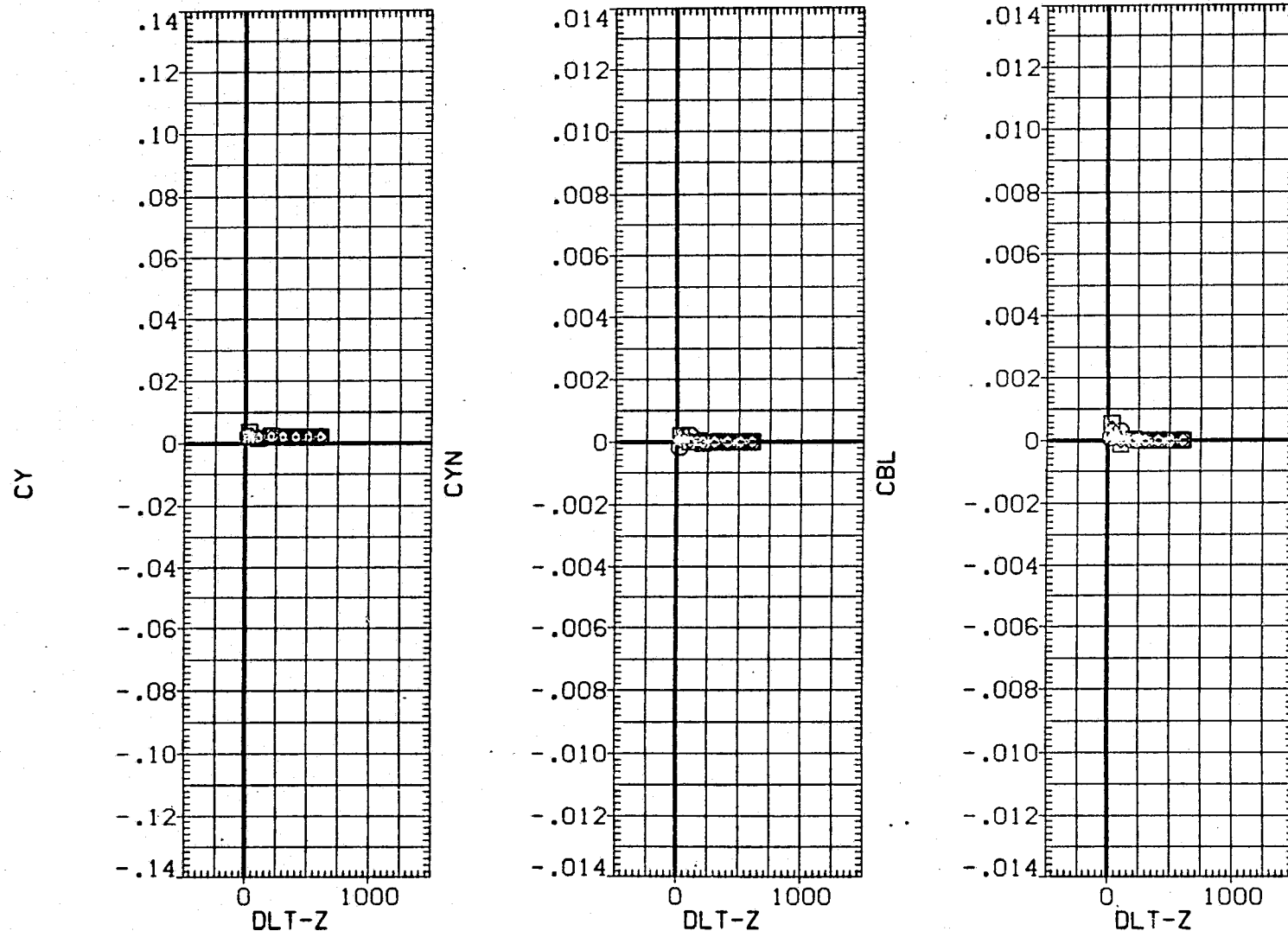


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR027)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.480	.000	ALPHA	-5.000
□	200.430	.000	DLTALF	-5.000
		.000	MACH	5.930
		.000	ELEVON	.000
		.000		
		6.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

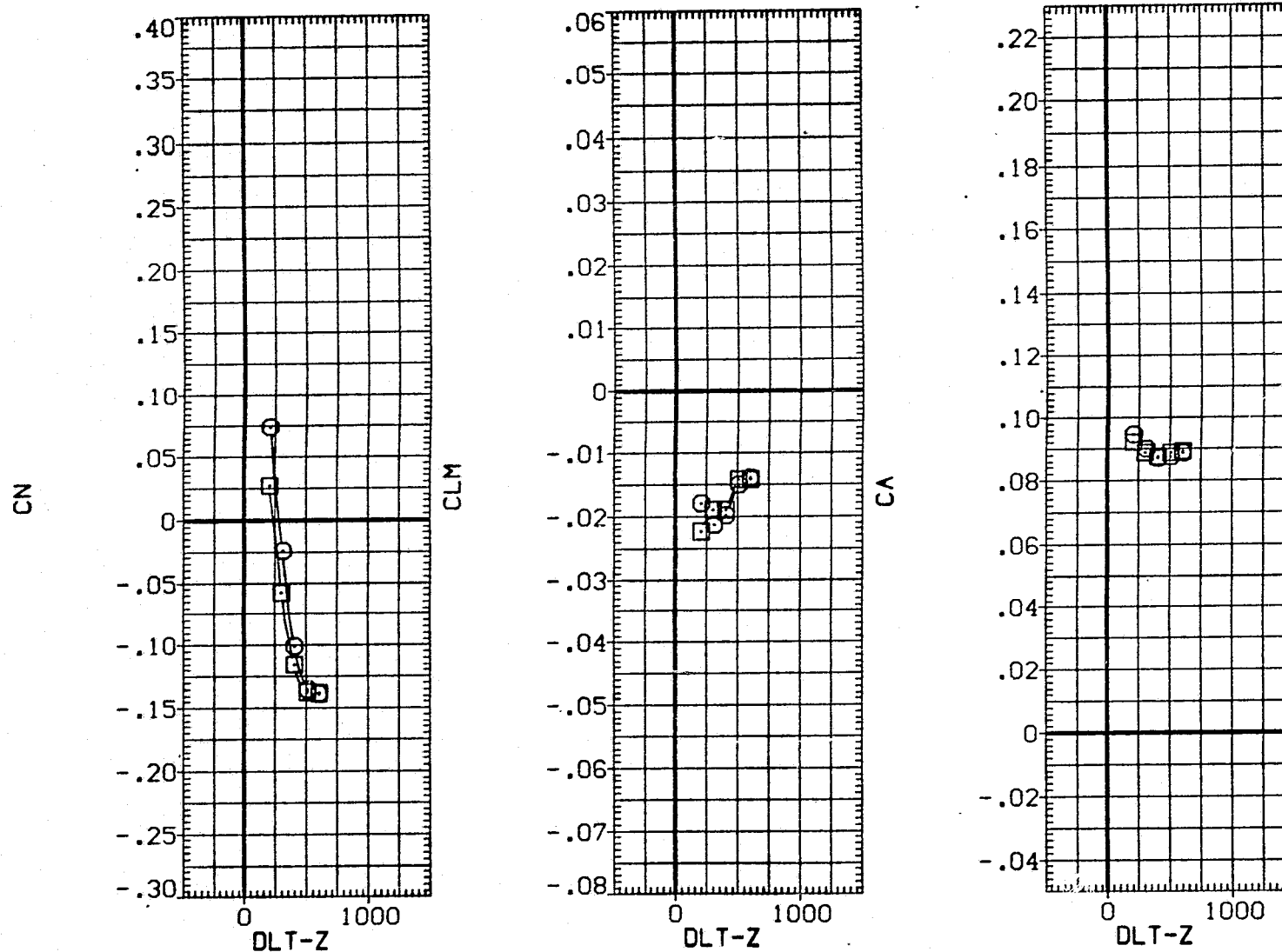


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR027)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.480	BETA	.000	ALPHA
□	200.430	DLTBTA	.000	DLTALF
		AILRON	.000	MACH
		GRID	6.000	ELEVON
				.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

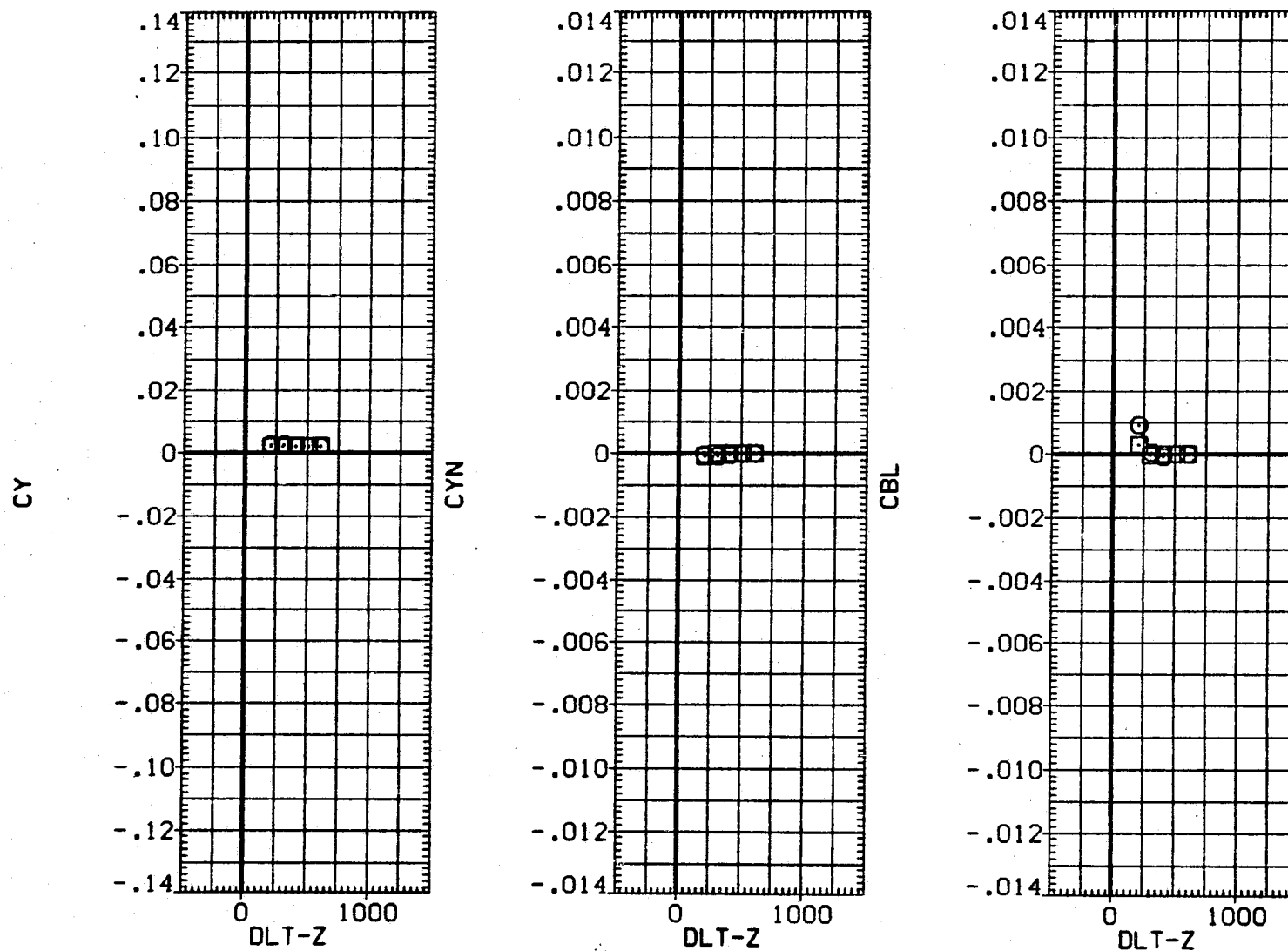


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR028)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.503	.000	ALPHA	-5.000
□	200.570	.000	DLTALF	-10.000
◇	400.530	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

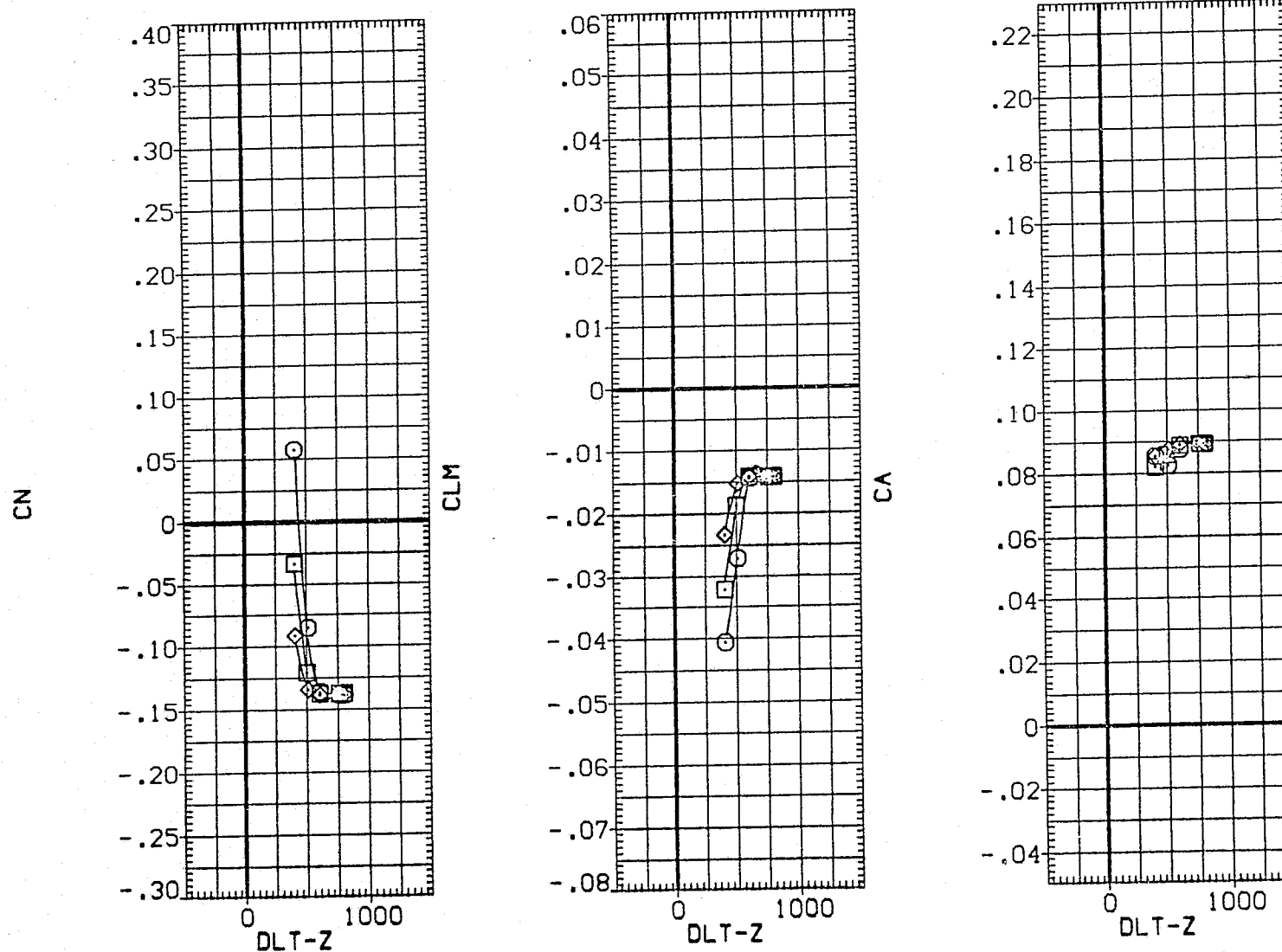


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR028)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.503	.000	ALPHA	-5.000
□	200.570	.000	DLTALF	-10.000
◇	400.530	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

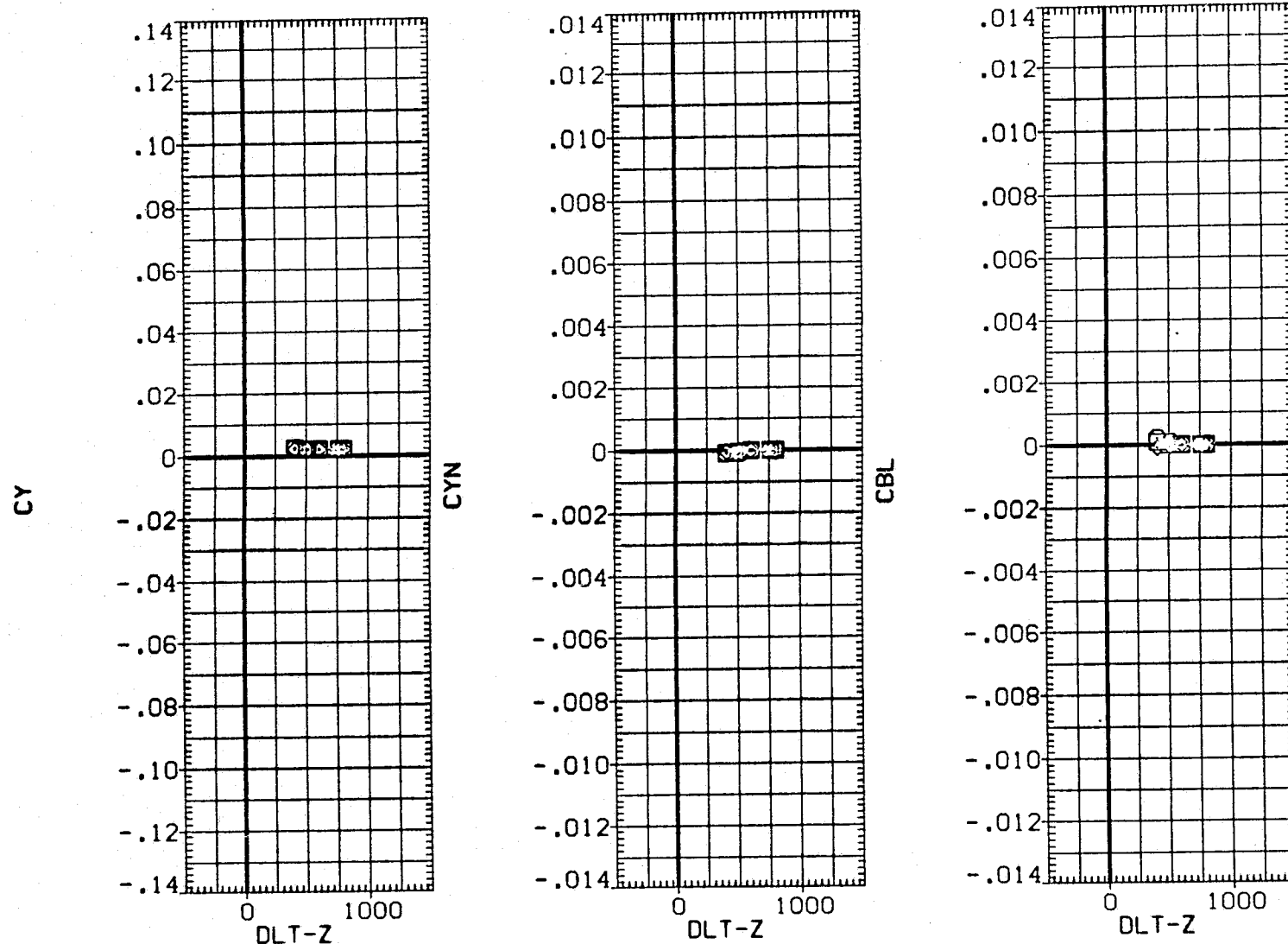


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTRO29)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	DLT-Y	ALPHA	DLTALF	
○	.456		.000	-5.000		
□	200.450	BETA	.000	-15.000		
◇	400.420	DLTBTA	.000	MACH	5.930	
		AILRON	.000	ELEVON	.000	
		GRID	6.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XO
YMRF	.0000	IN. YO
ZMRF	375.0000	IN. ZO
SCALE	.0100	

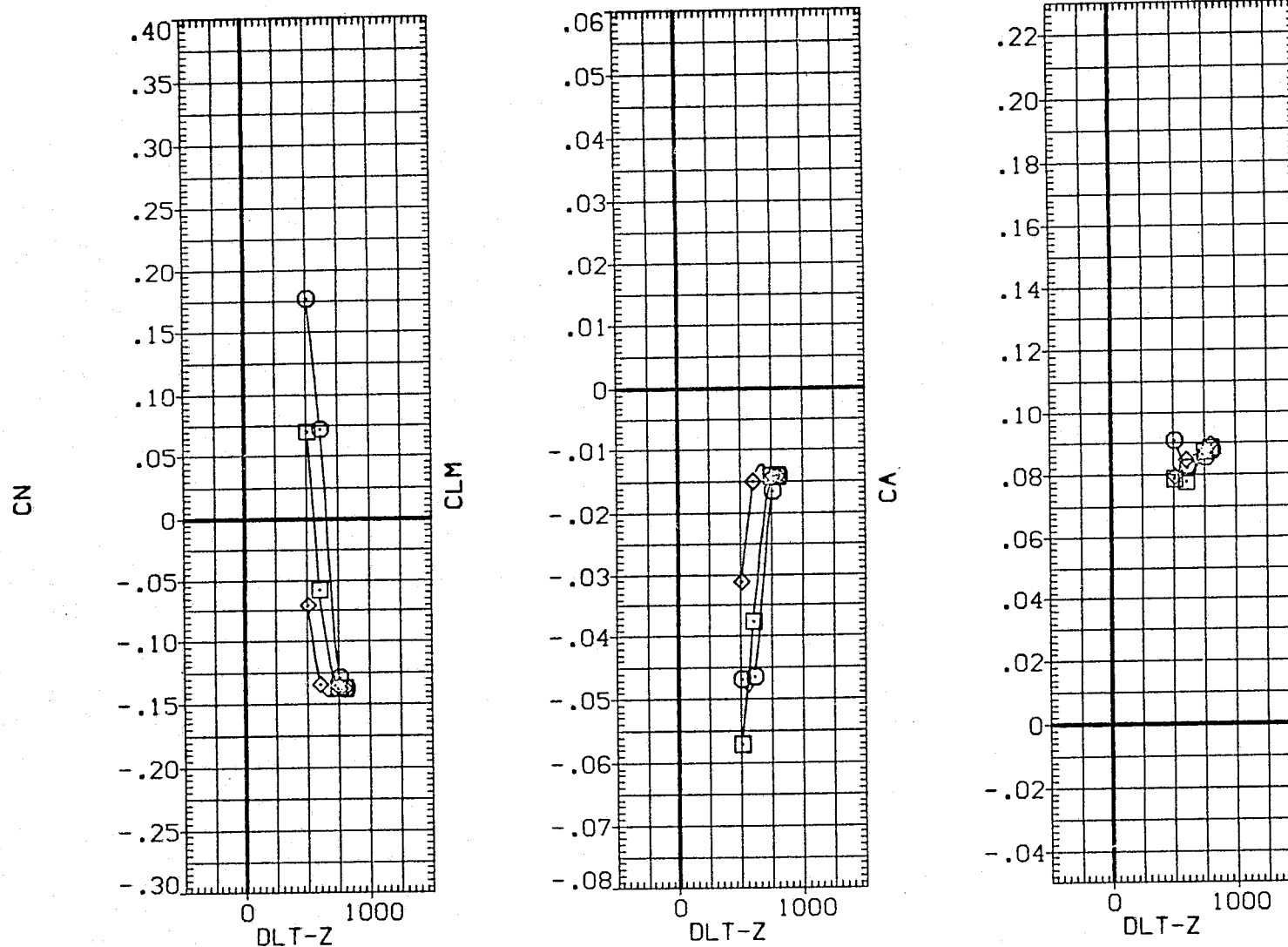


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR029)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.456	.000	ALPHA -5.000
□	200.450	.000	DLTALF -15.000
◇	400.420	.000	MACH 5.930
		.000	ELEVON .000
		6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

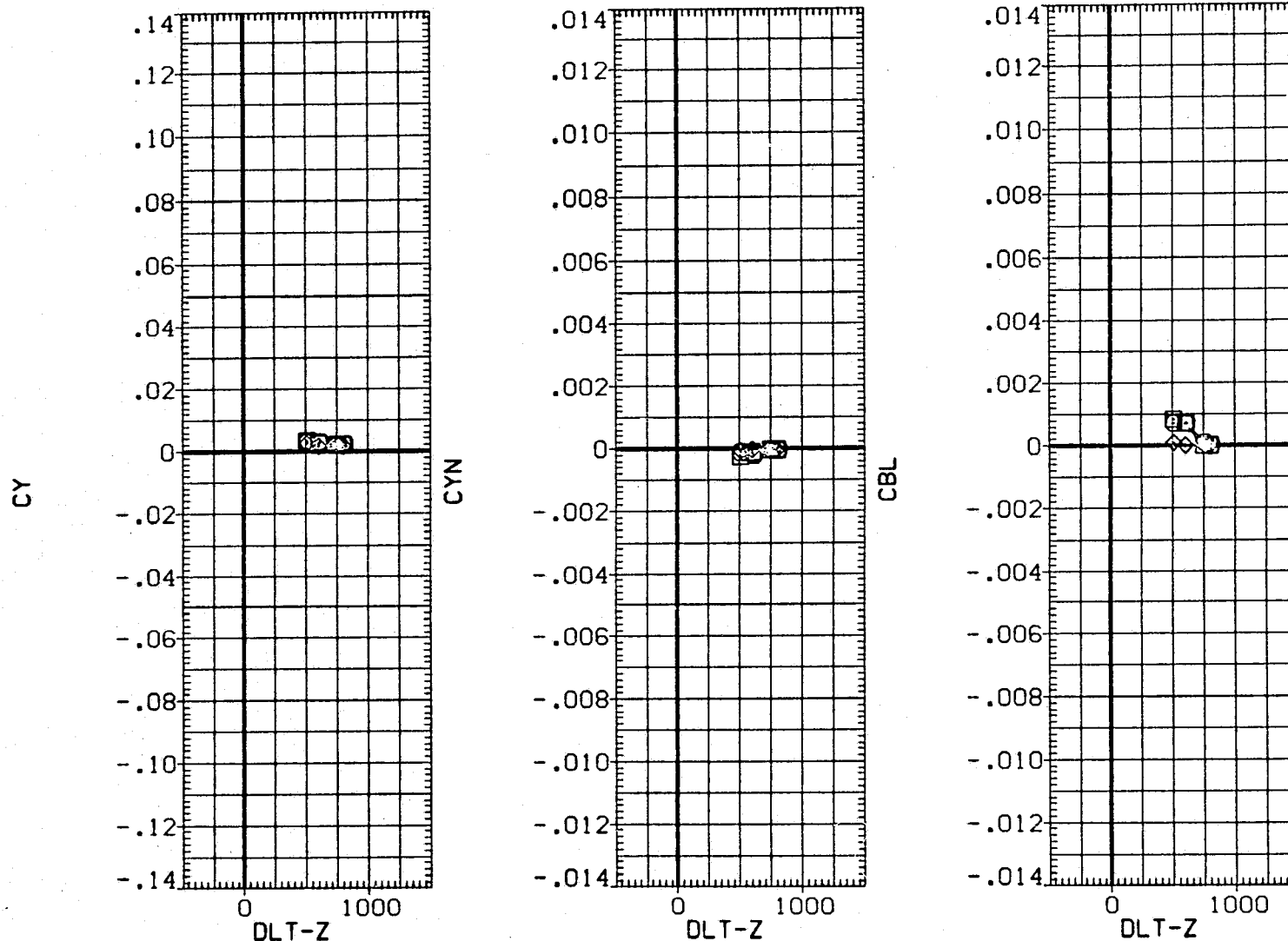


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR031)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.470	DLT-Y	.000	ALPHA	-5.000
□	200.480	BETA	.000	DLTALF	-20.000
◇	400.450	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	6.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

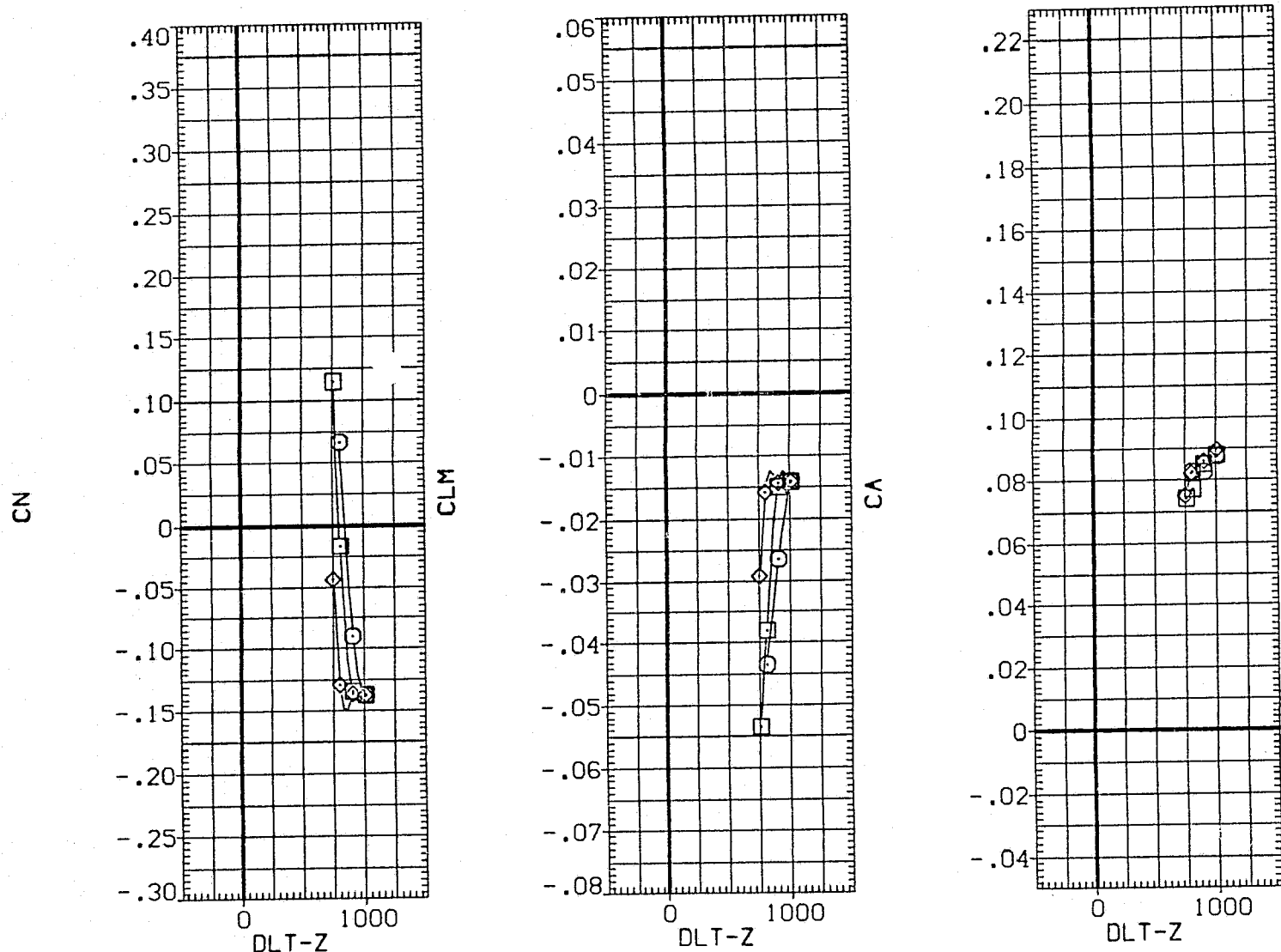


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR031)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
	.470	.000	ALPHA	-5.000
○	200.480	BETA	DLTALF	-20.000
□	400.450	DLTBTA	MACH	5.930
◇		AILRON	ELEVON	.000
		GRID		6.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

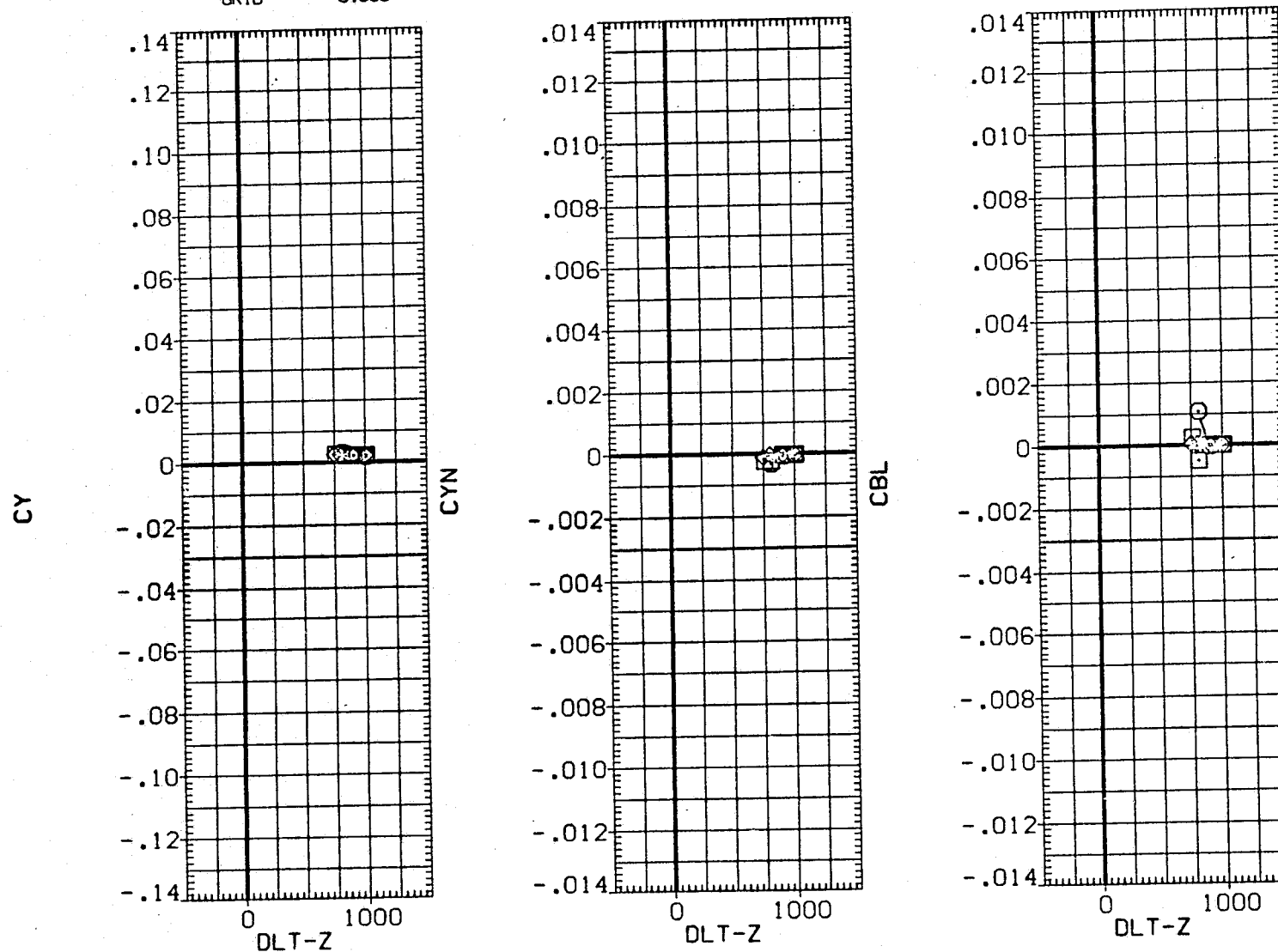


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR032)

SYMBOL	DLT-X	PARAMETRIC VALUES			
	200.520	DLT-Y	DLT-Z	ALPHA	DLTALF
		BETA	3.000	MACH	5.930
		DLTBTA	.000	ELEVON	.000
		AILRON	.000		
		GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

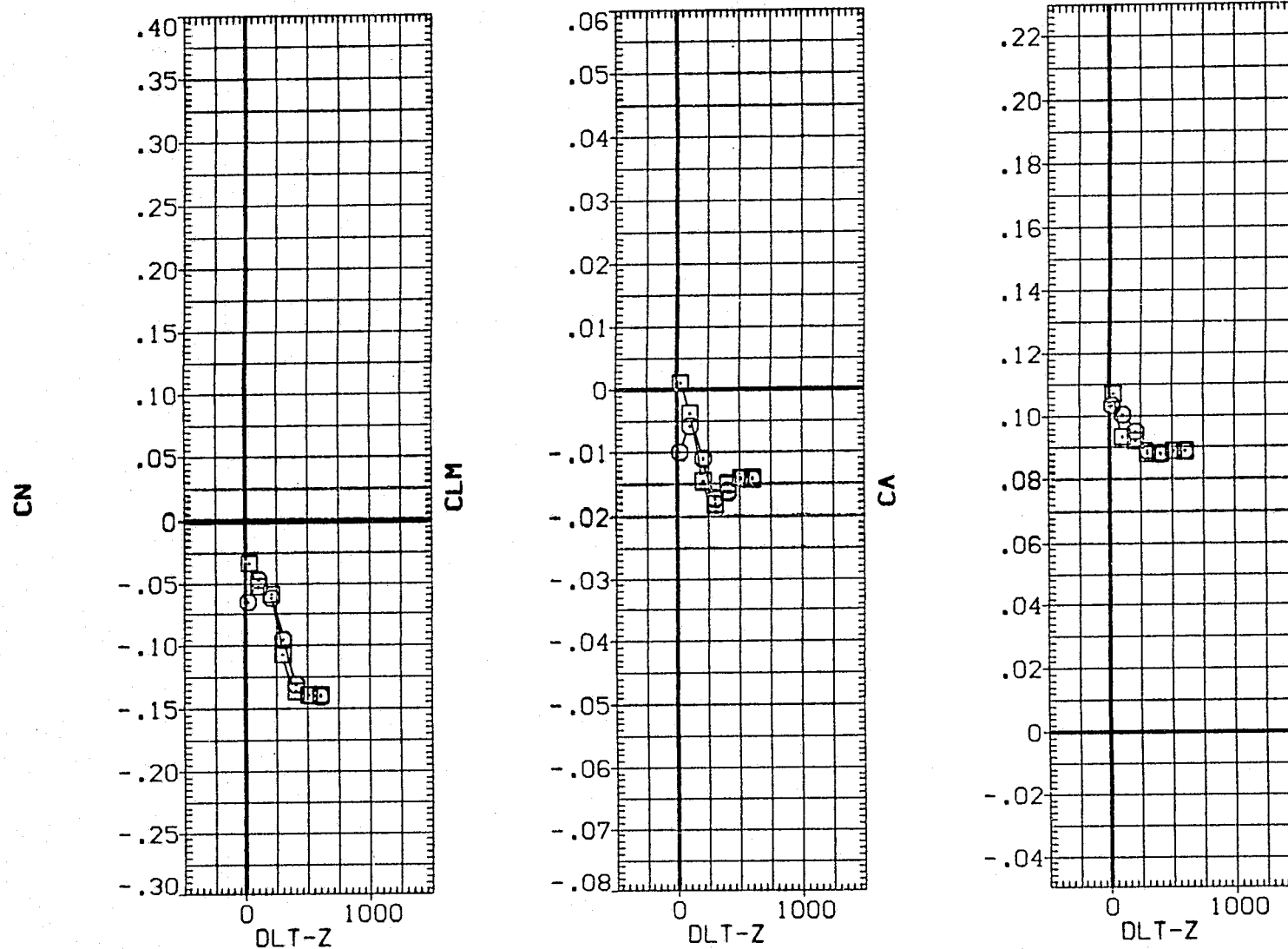


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR032)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.605		.000	-5.000
□	200.520	BETA	3.000	DLTALF
		DLTBTA	.000	MACH
		AILRON	.000	ELEVON
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

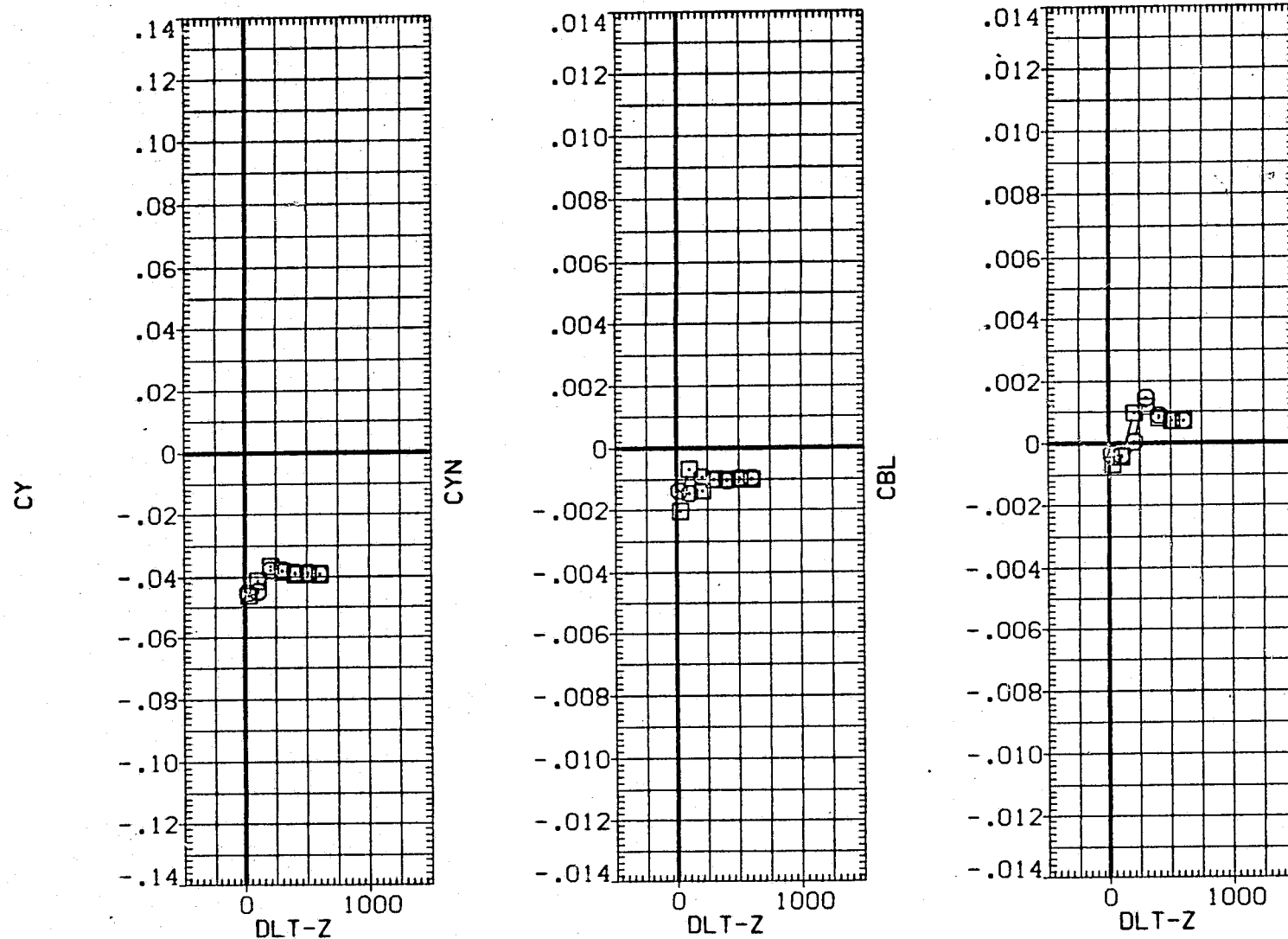


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR033)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.494	.000	DLTALF	-5.000
□	200.560	BETA	3.000	-5.000
		DLTBT	.000	5.930
		AILRON	.000	ELEVON
		GRID	7.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

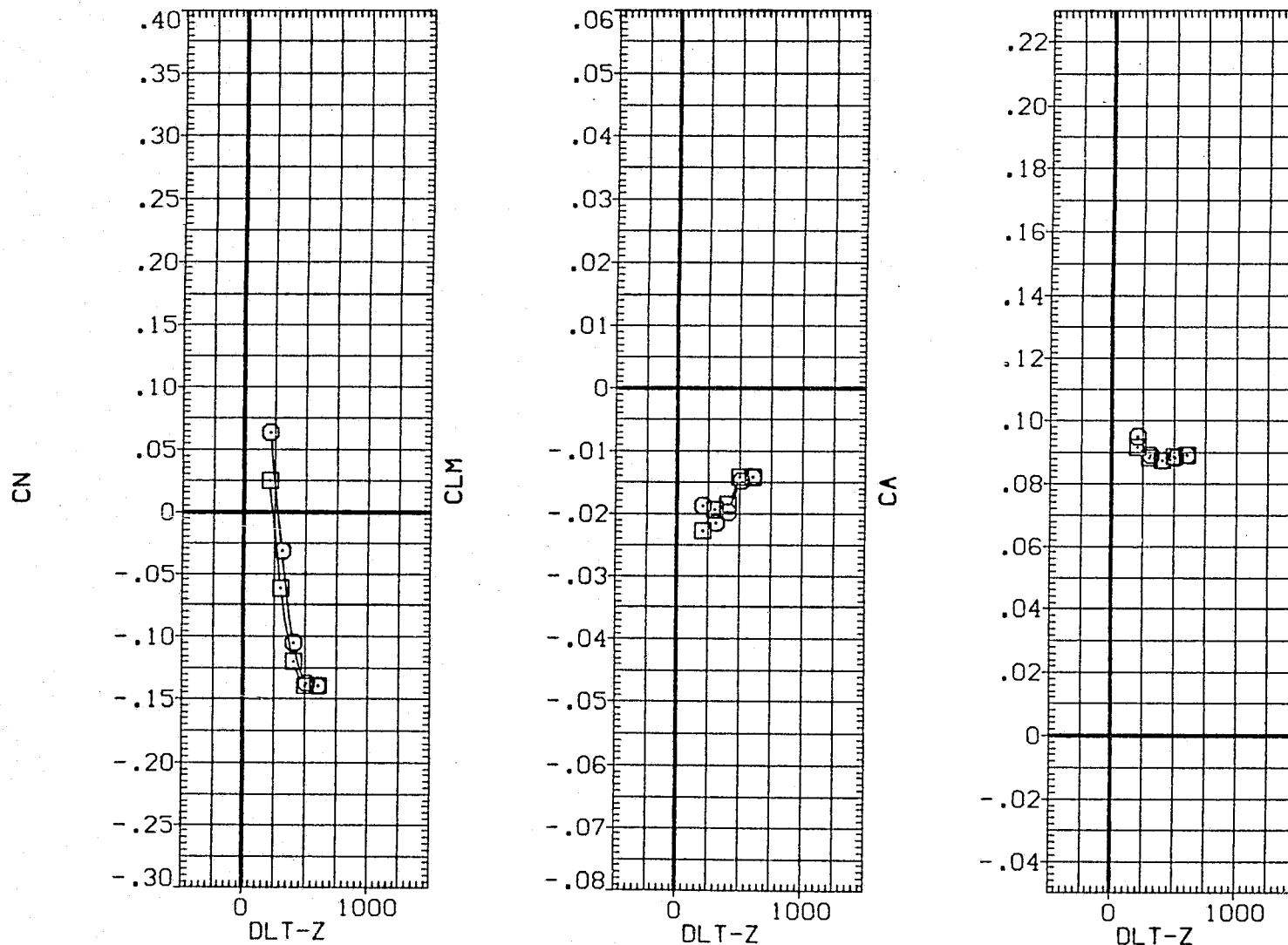


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR033)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.494	.000	ALPHA	-5.000
□	200.560	3.000	DLTALF	-5.000
		.000	MACH	5.930
		.000	ELEVON	.000
		7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

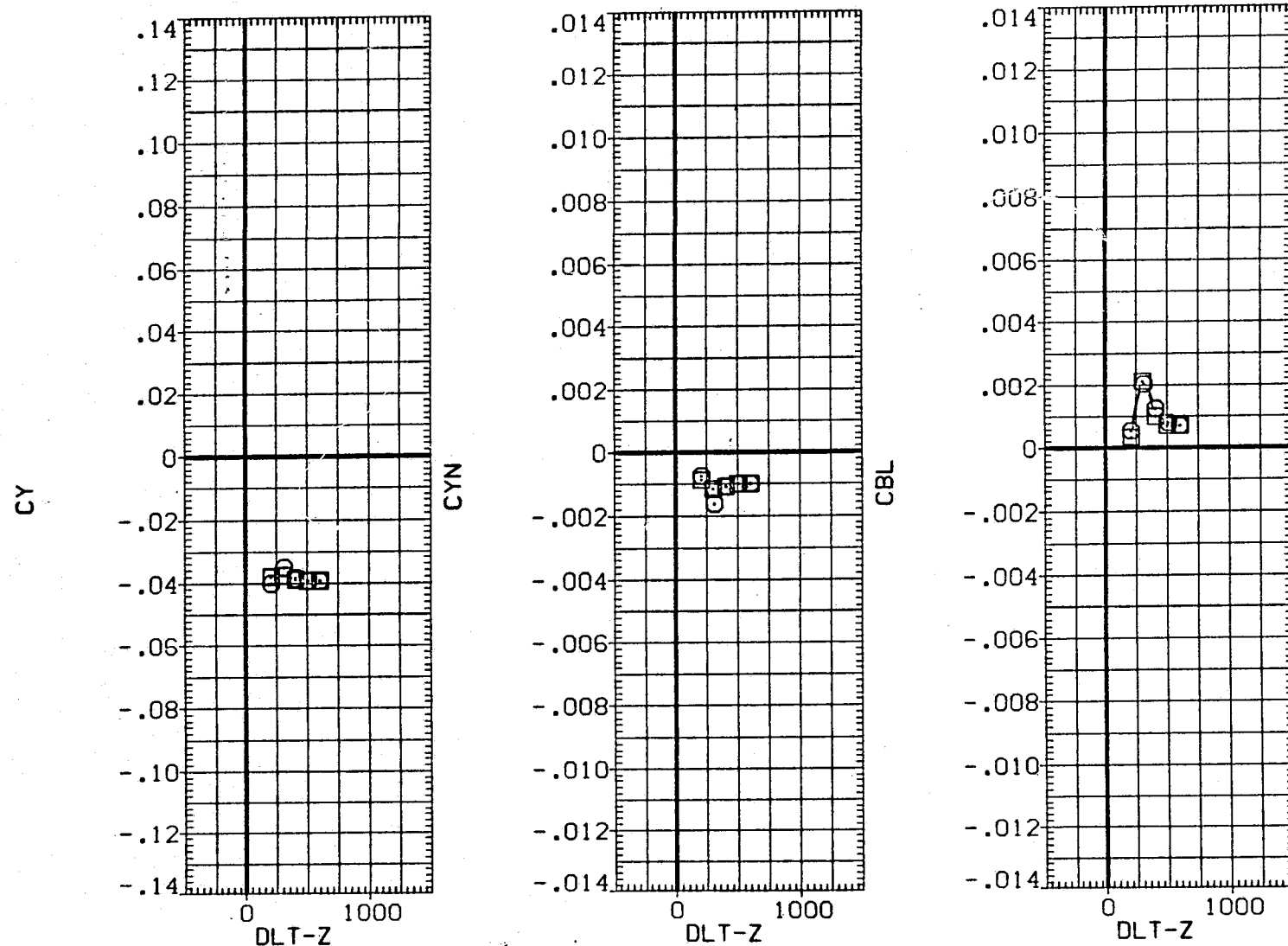


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR034)

SYMBOL		DLT-X		PARAMETRIC VALUES		
○		.470	DLT-Y	.000	ALPHA	-5.000
□		200.470	BETA	3.000	DLTALF	-10.000
◇		400.470	DLTBTA	.000	MACH	5.930
			AILRON	.000	ELEVON	.000
			GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

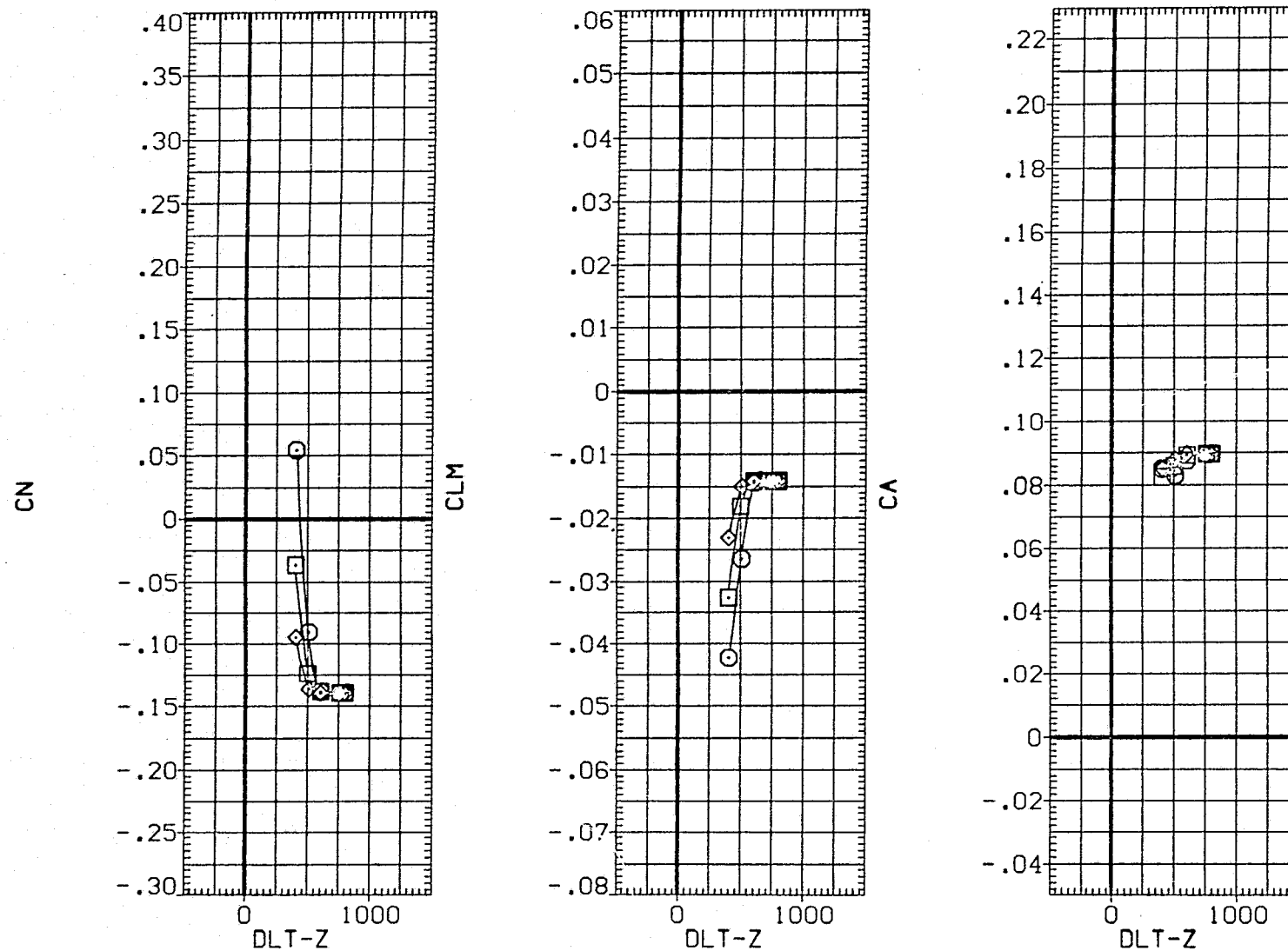


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR034)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	-5.000
○	.470	BETA	3.000	DLTALF	-10.000
□	200.470	DLTBTA	.000	MACH	5.930
◇	400.470	AILRON	.000	ELEVON	.000
		GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

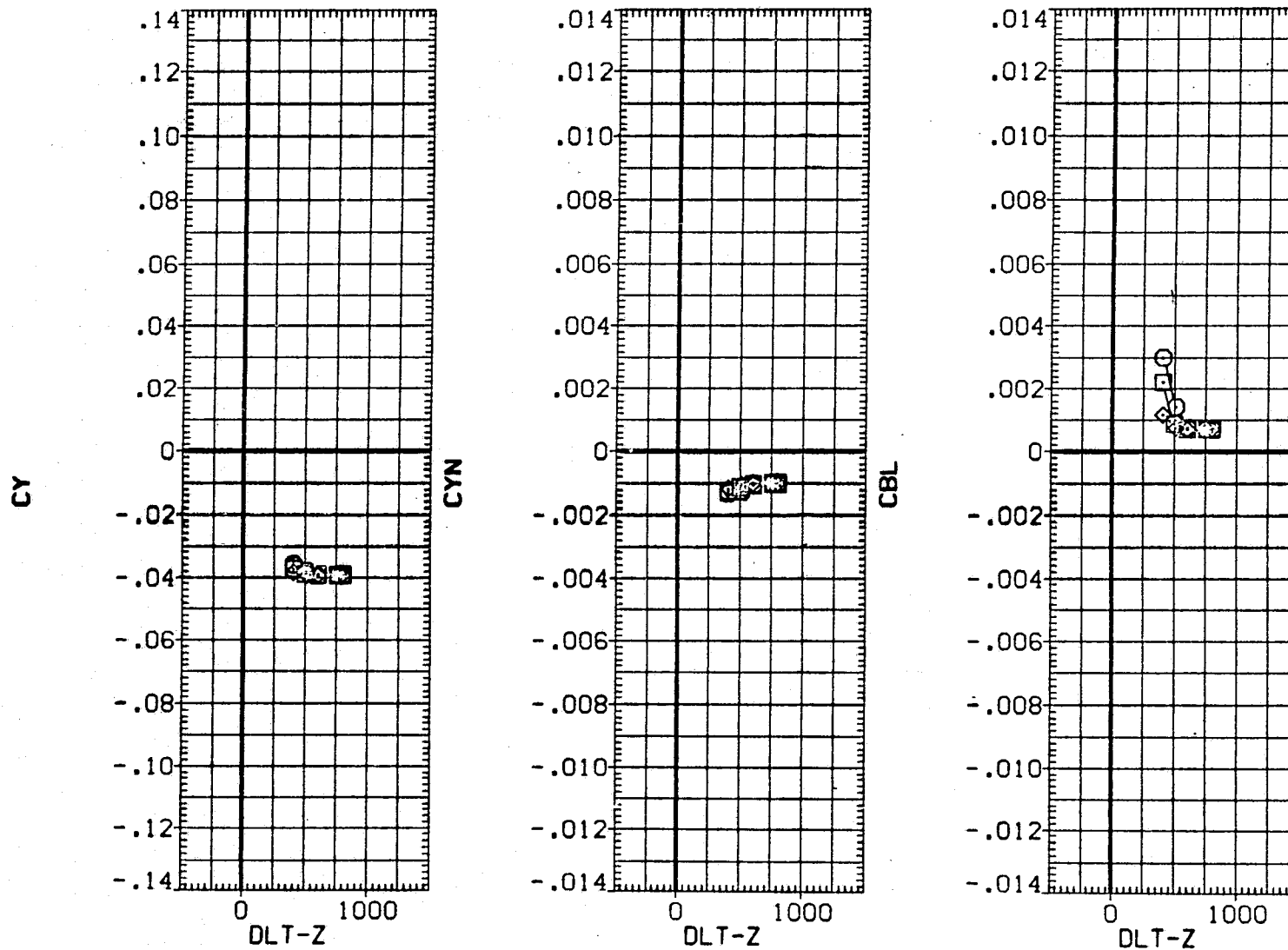


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR035)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.447	.000	ALPHA	-5.000
□	200.540	3.000	DLTALF	-15.000
◇	400.470	.000	MACH	5.930
		.000	ELEVON	.000
		7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

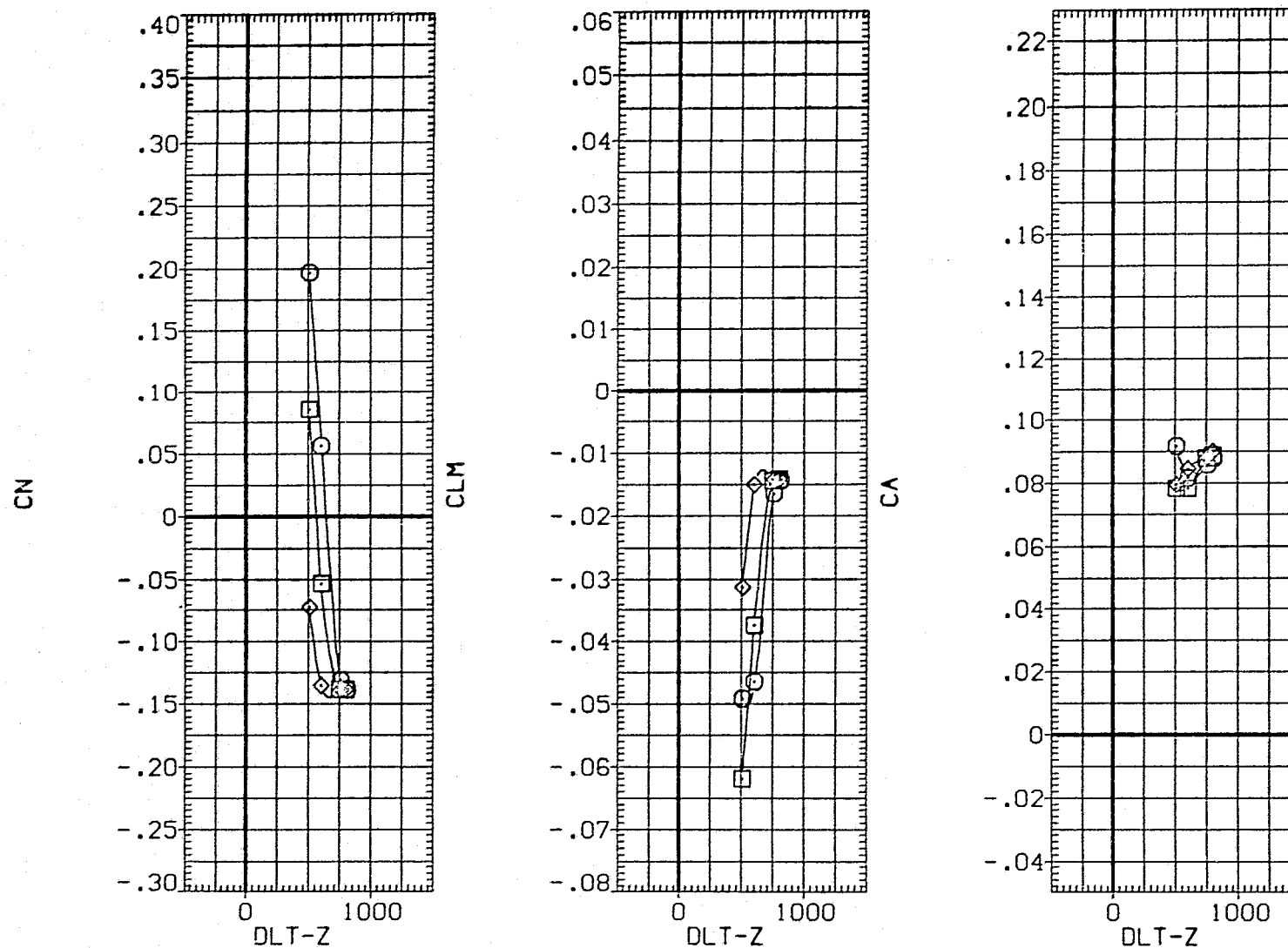


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR035)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.447	.000	BETA	-5.000
□	200.540	3.000	DLTALF	-15.000
◇	400.470	.000	MACH	5.930
		.000	ELEVON	.000
		7.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

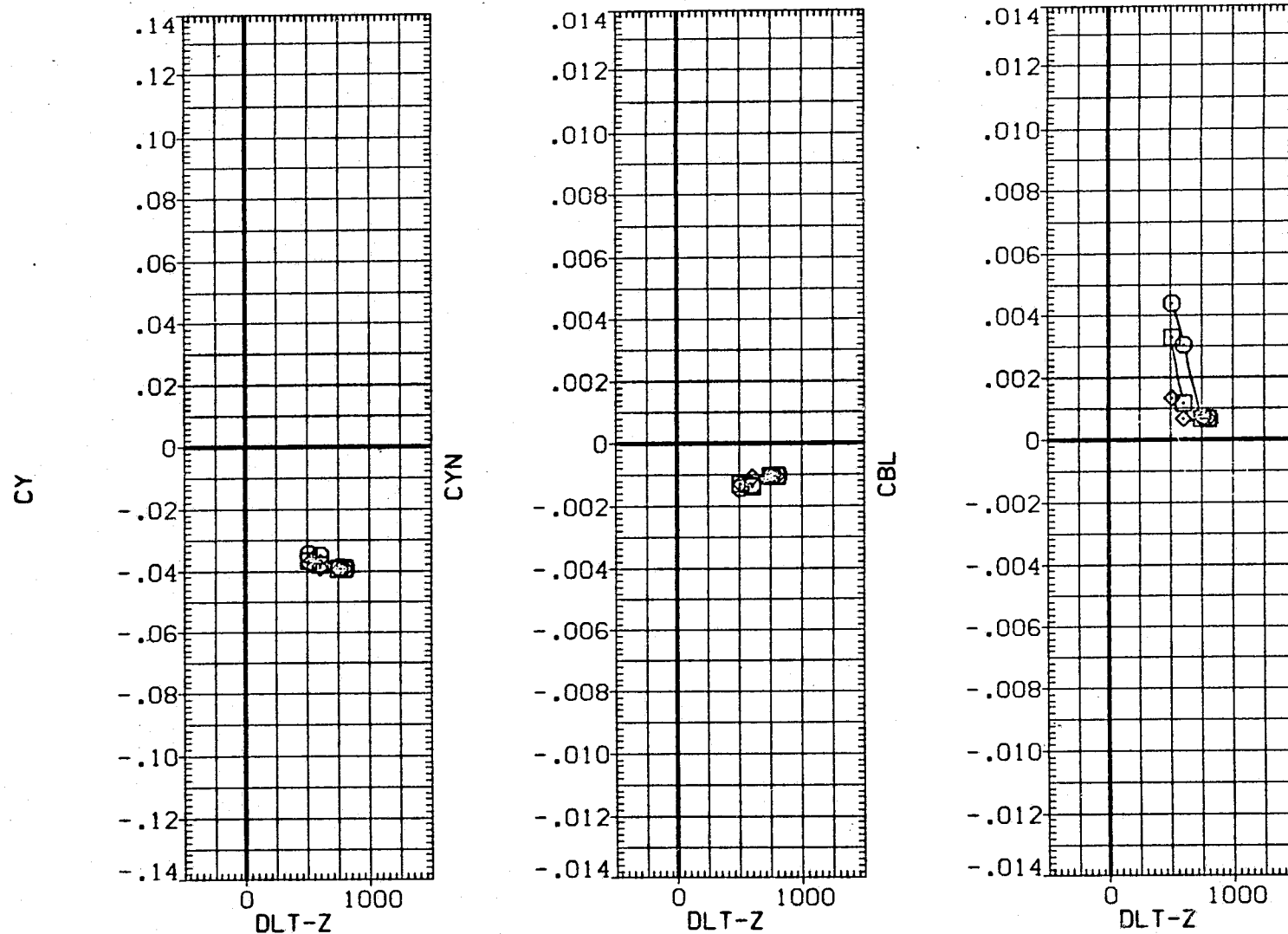


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR037)

SYMBOL	DLT-X		PARAMETRIC VALUES		
	DLT-X	DLT-Y	DLT-Y	ALPHA	
○	.489		.000	-5.000	
□	200.370	BETA	3.000	DLTALF	-20.000
◇	400.450	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

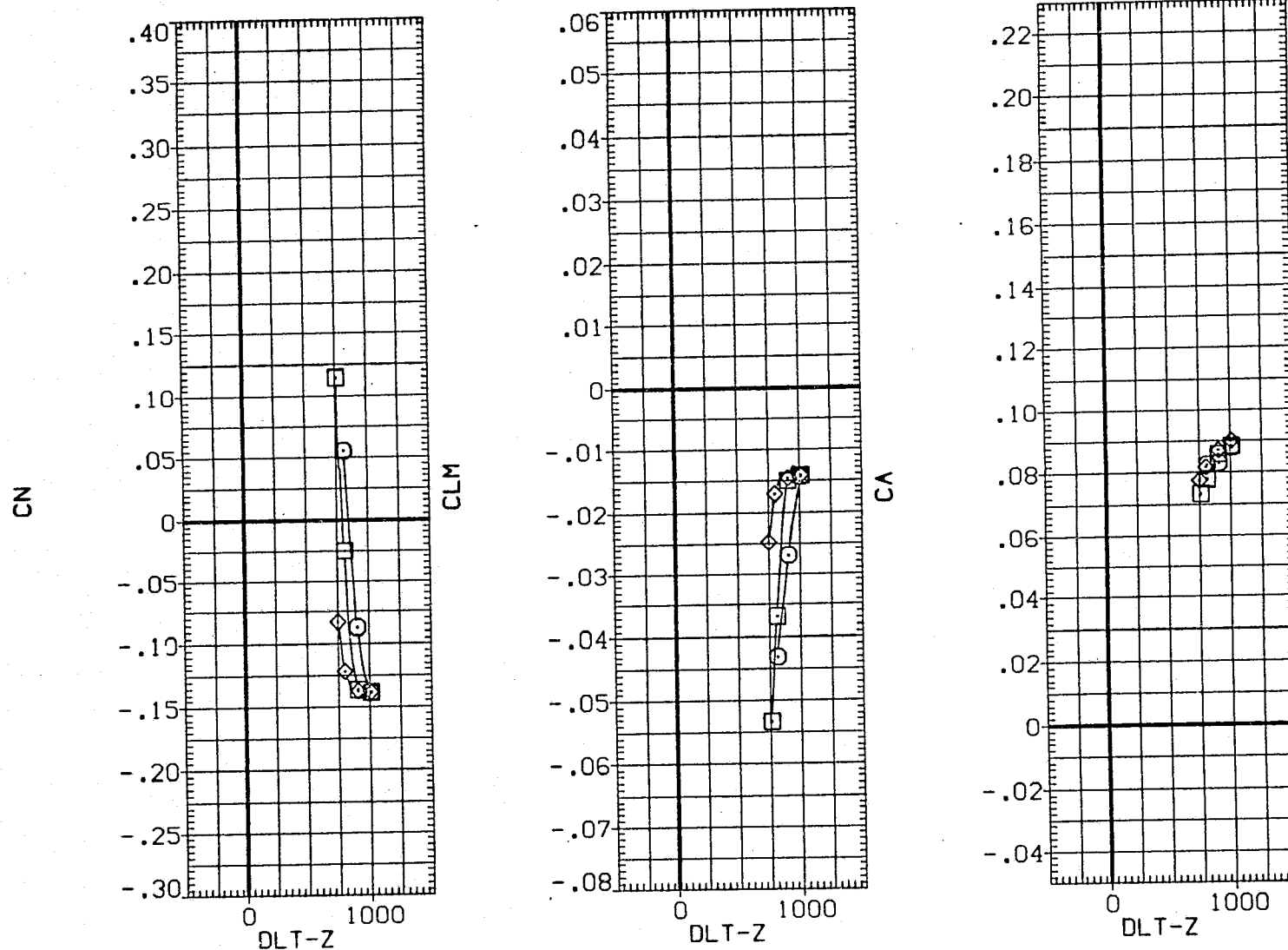


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR037)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.489	.000	ALPHA	-5.000
□	200.370	BETA	3.000	DLTALF -20.000
◇	400.450	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

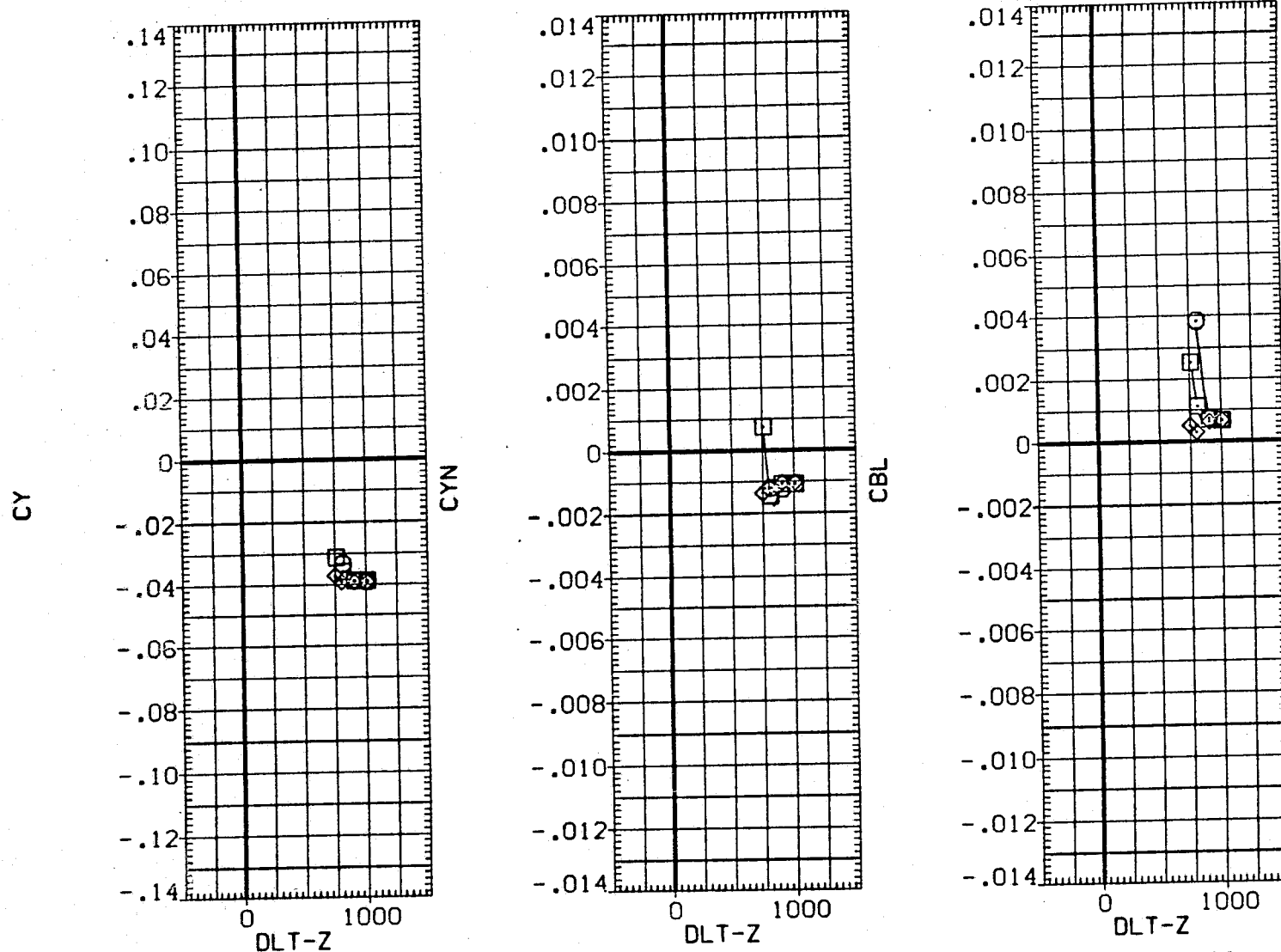


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR114)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.657	.000		10.000
□	200.590	.000		-5.000
		.000		5.930
		.000		.000
		.000		
		23.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

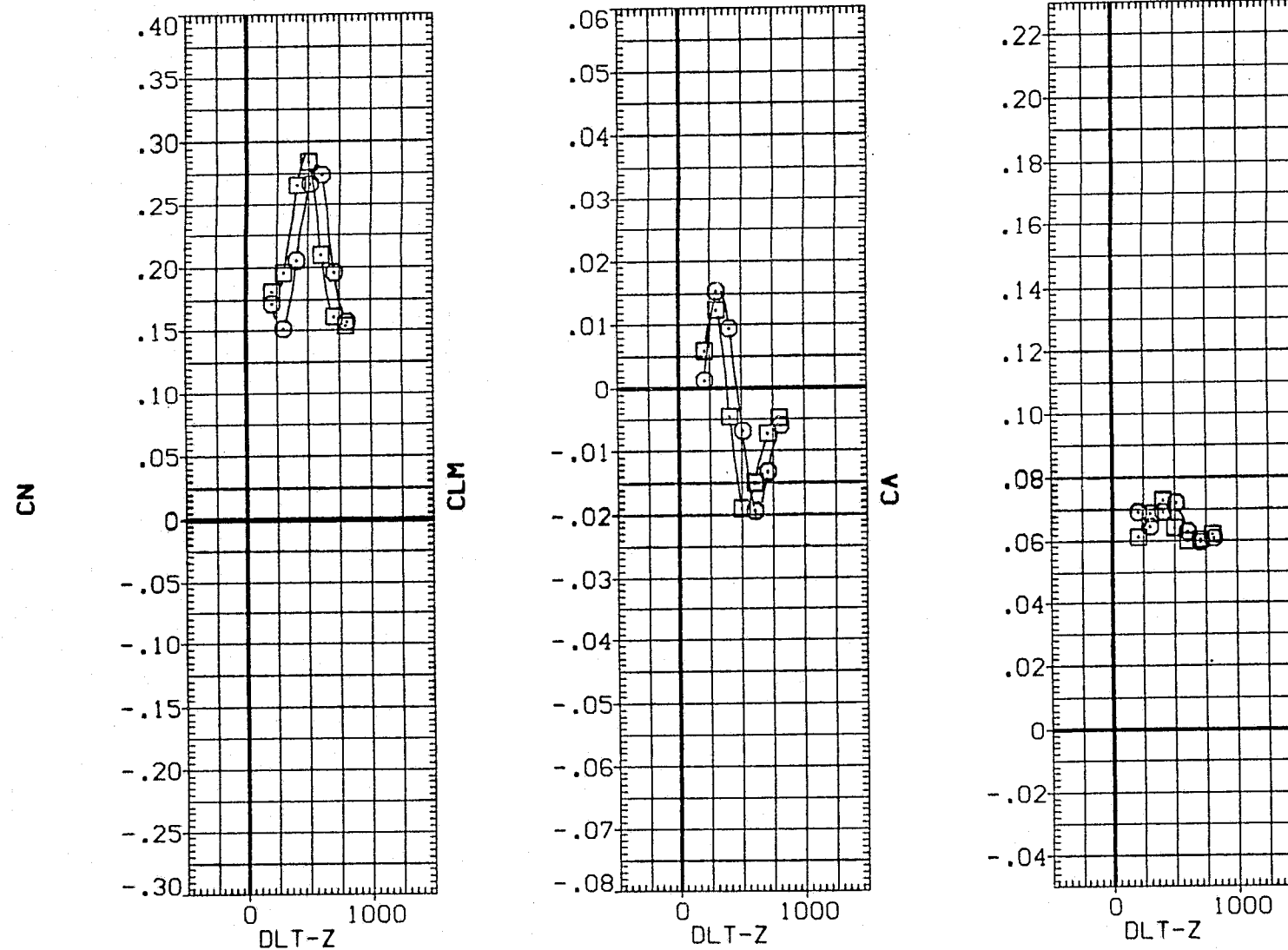


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR114)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.657	BETA	.000	ALPHA
□	200.590	DLTBTA	.000	DLTALF
		AILRON	.000	MACH
		GRID	23.000	ELEVON

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

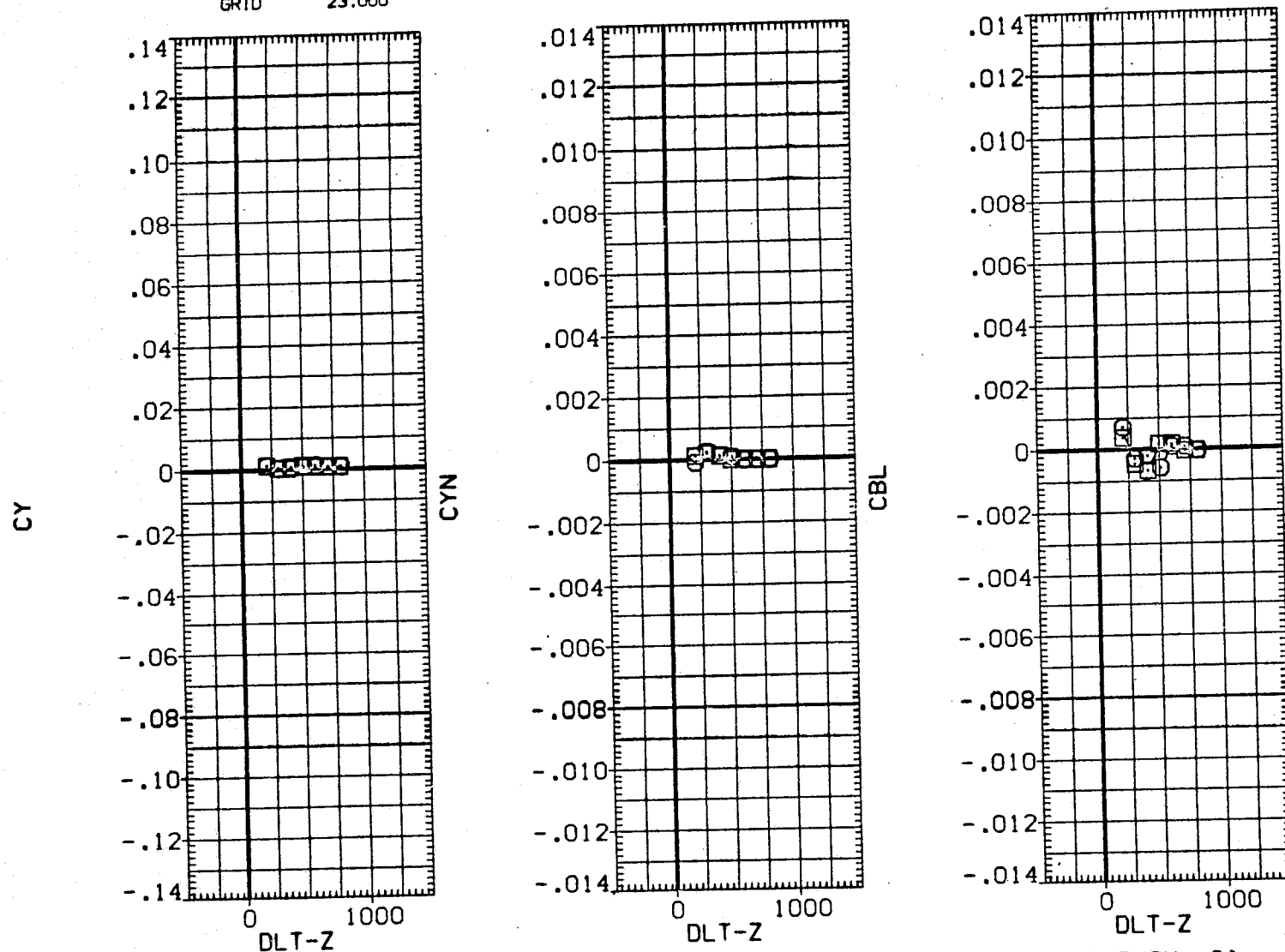


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR115)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.472	.000	ALPHA	10.000
□	200.490	.000	DLTALF	-10.000
◇	400.480	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

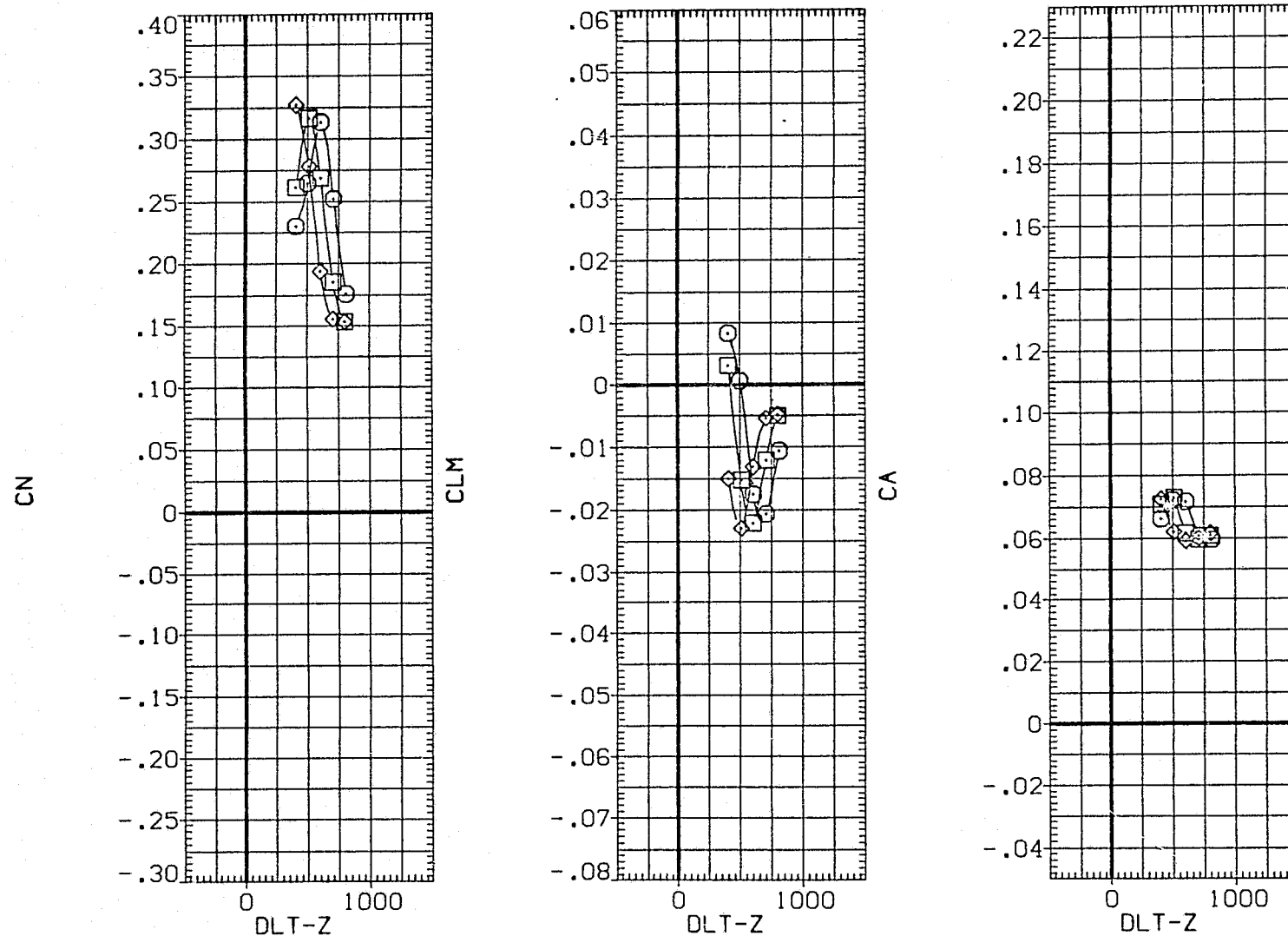


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR115)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.472	.000	ALPHA	10.000
□	200.490	.000	DLTALF	-10.000
◇	400.480	.000	MACH	5.930
		.000	ELEVON	.000
		23.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

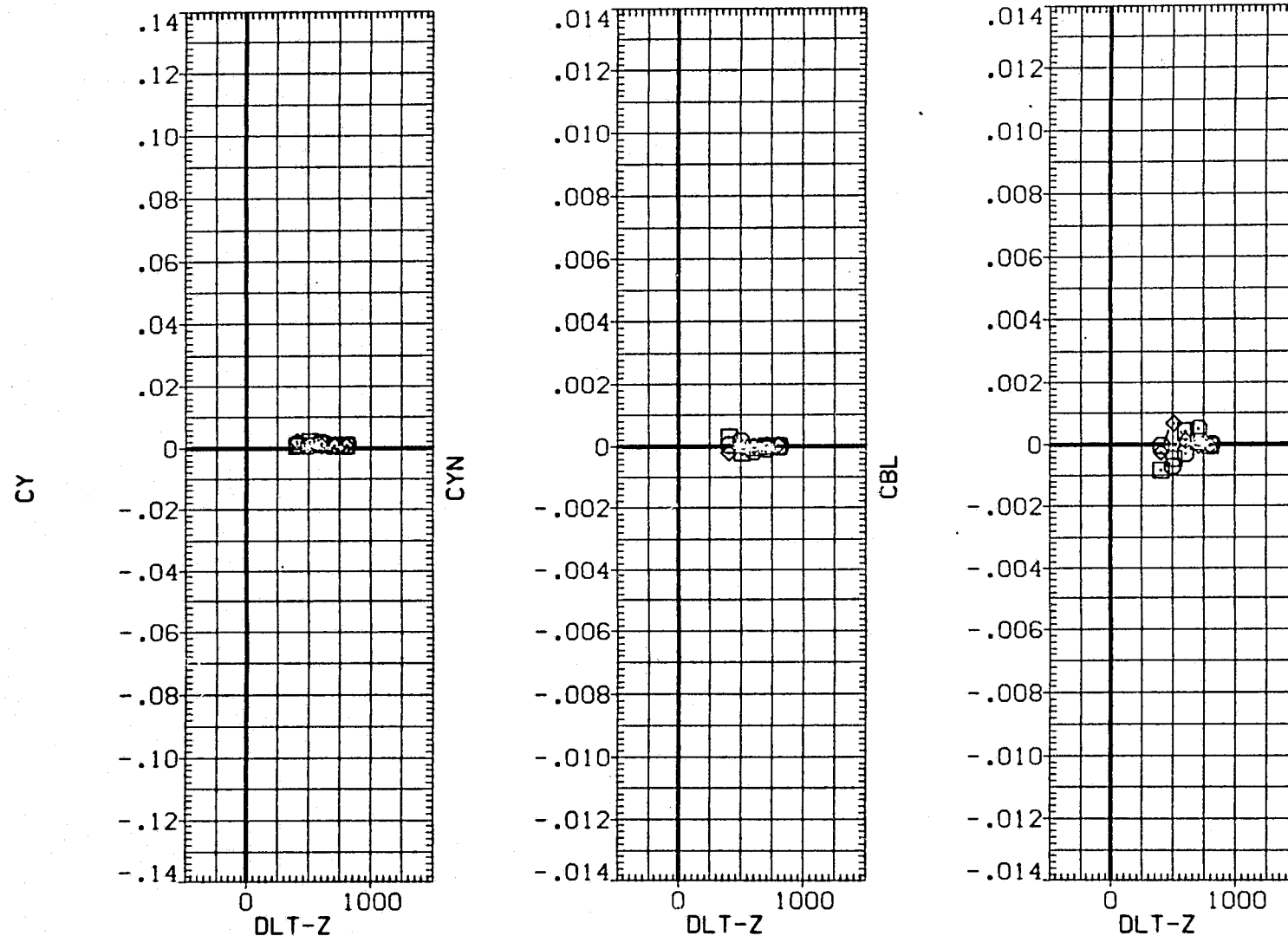


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR116)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.442	.000	ALPHA	10.000
□	200.560	.000	DLTALF	-15.000
◇	400.450	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

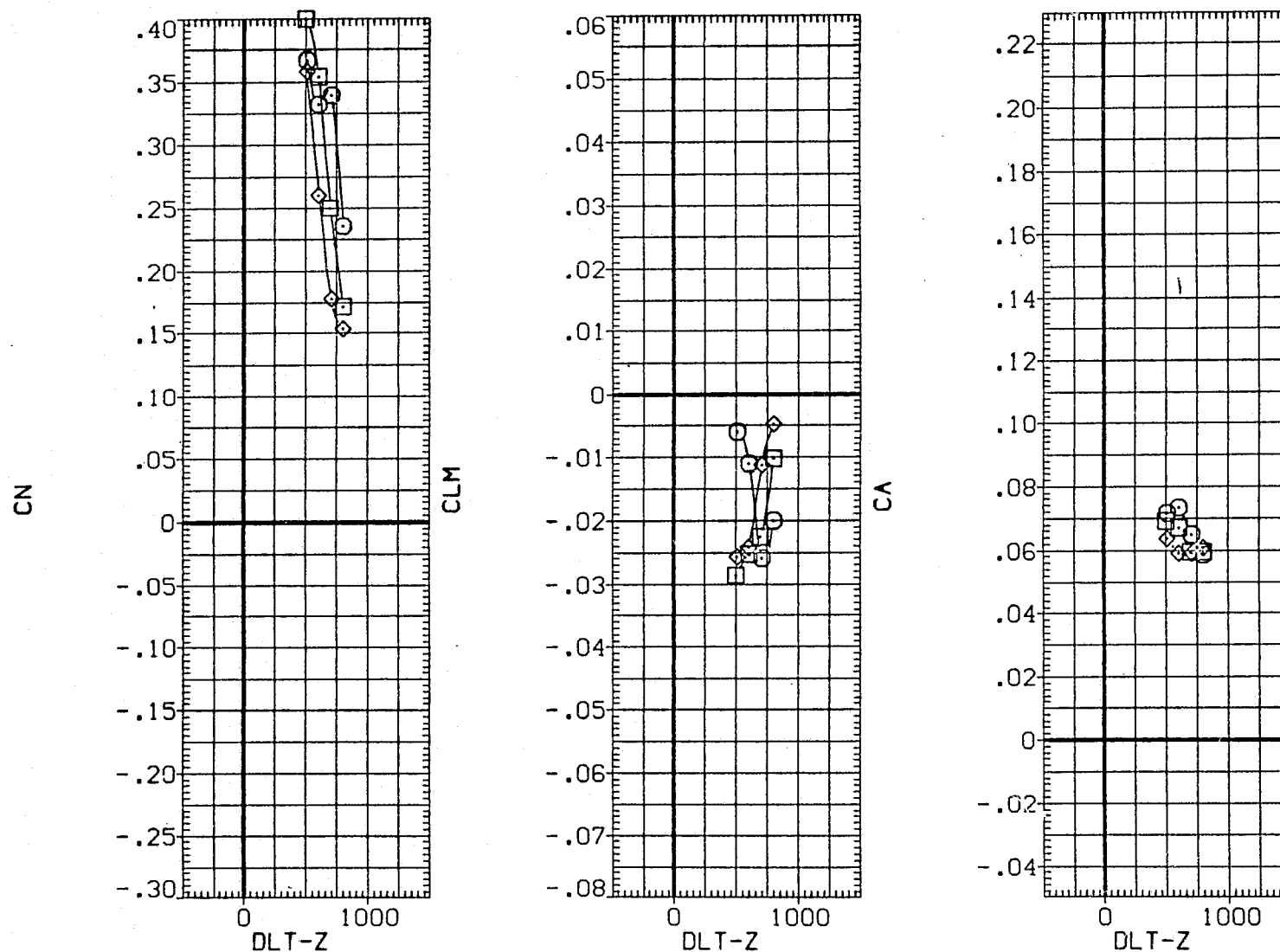


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR116)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.442	.000	ALPHA	10.000
□	200.560	.000	DLTALF	-15.000
◇	400.450	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

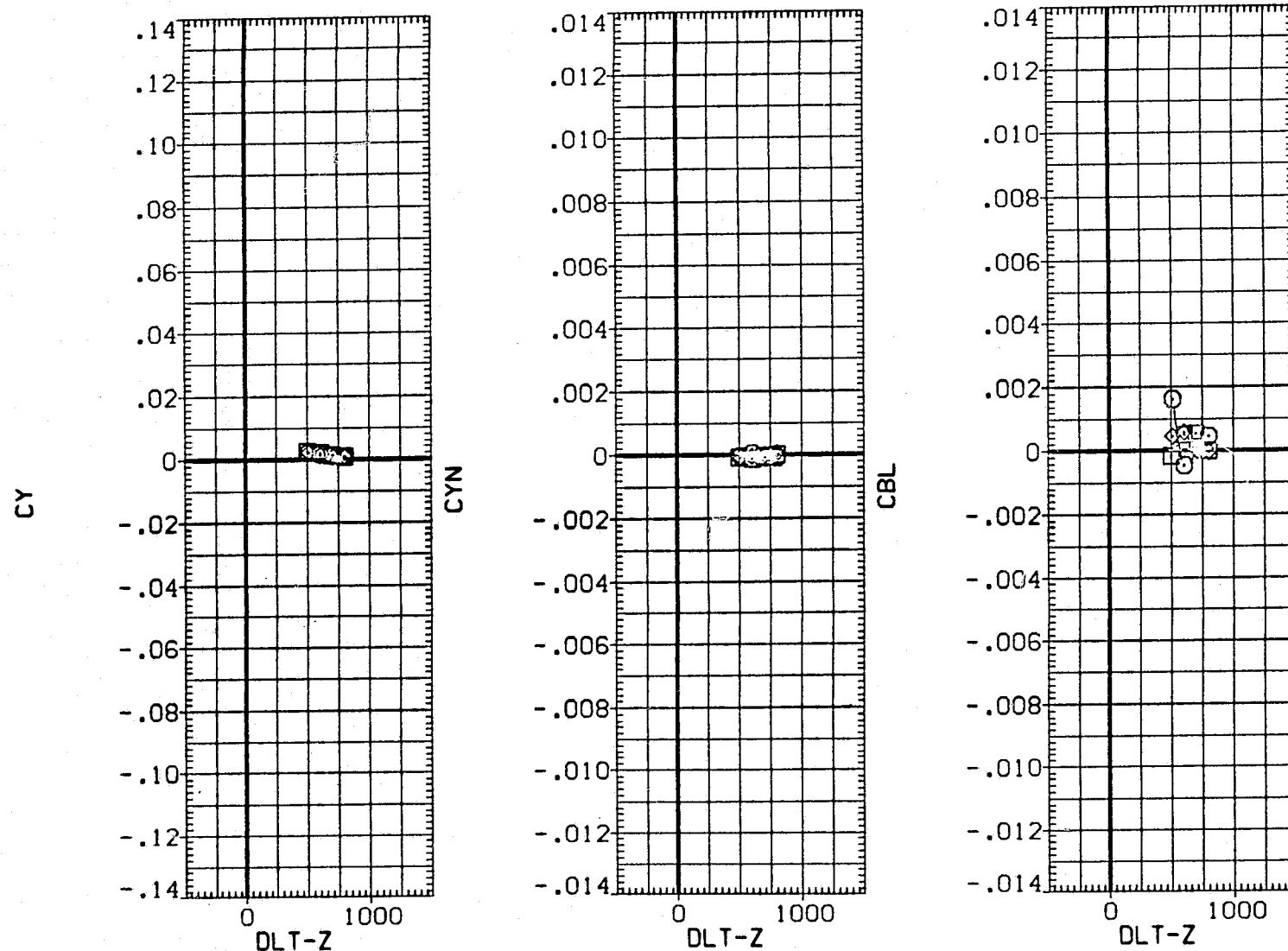


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR117)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.486	.000	ALPHA	10.000
□	200.550	.000	DLTALF	-20.000
◇	400.470	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

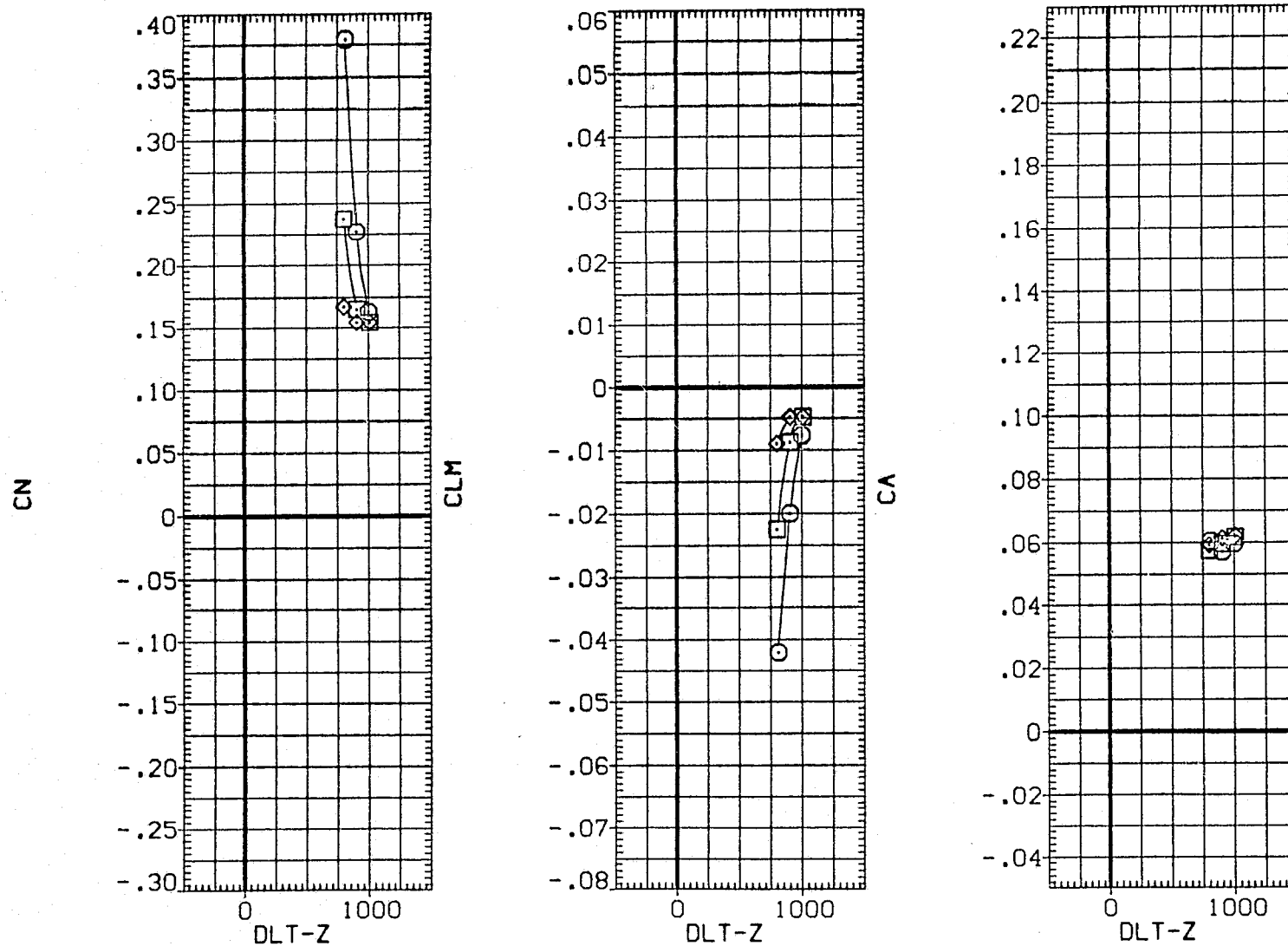


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR117)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.486	.000	10.000	
□	200.550	.000	-20.000	
◇	400.470	.000	5.930	
		.000	ELEVON	.000
		23.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

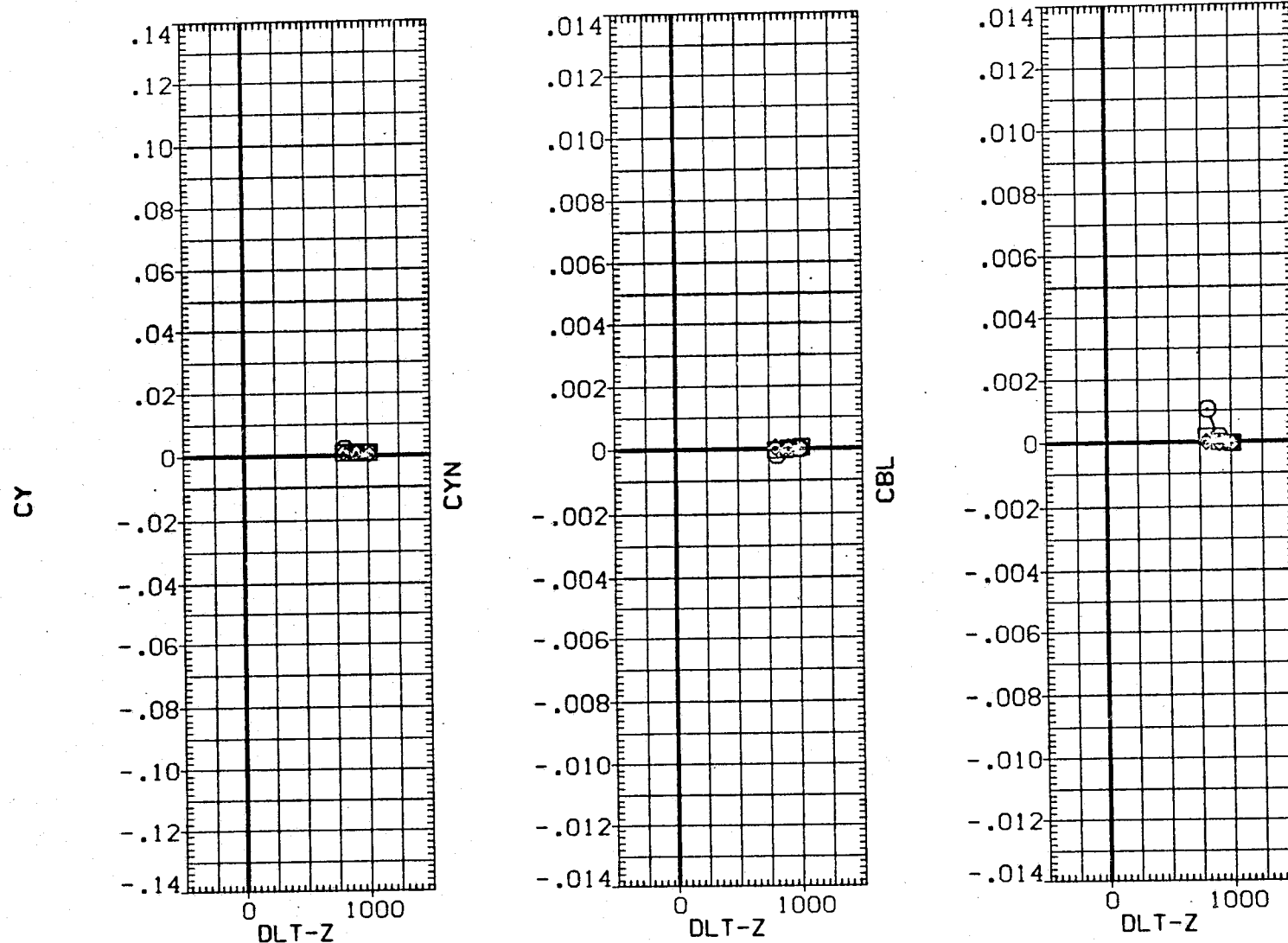


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR118)

SYMBOL		DLT-X	PARAMETRIC VALUES			
○		.604	DLT-Y	.000	ALPHA	10.000
□		200.460	BETA	3.000	DLTALF	-5.000
			DLTBTA	.000	MACH	5.930
			AILRON	.000	ELEVON	.000
			GRID	27.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

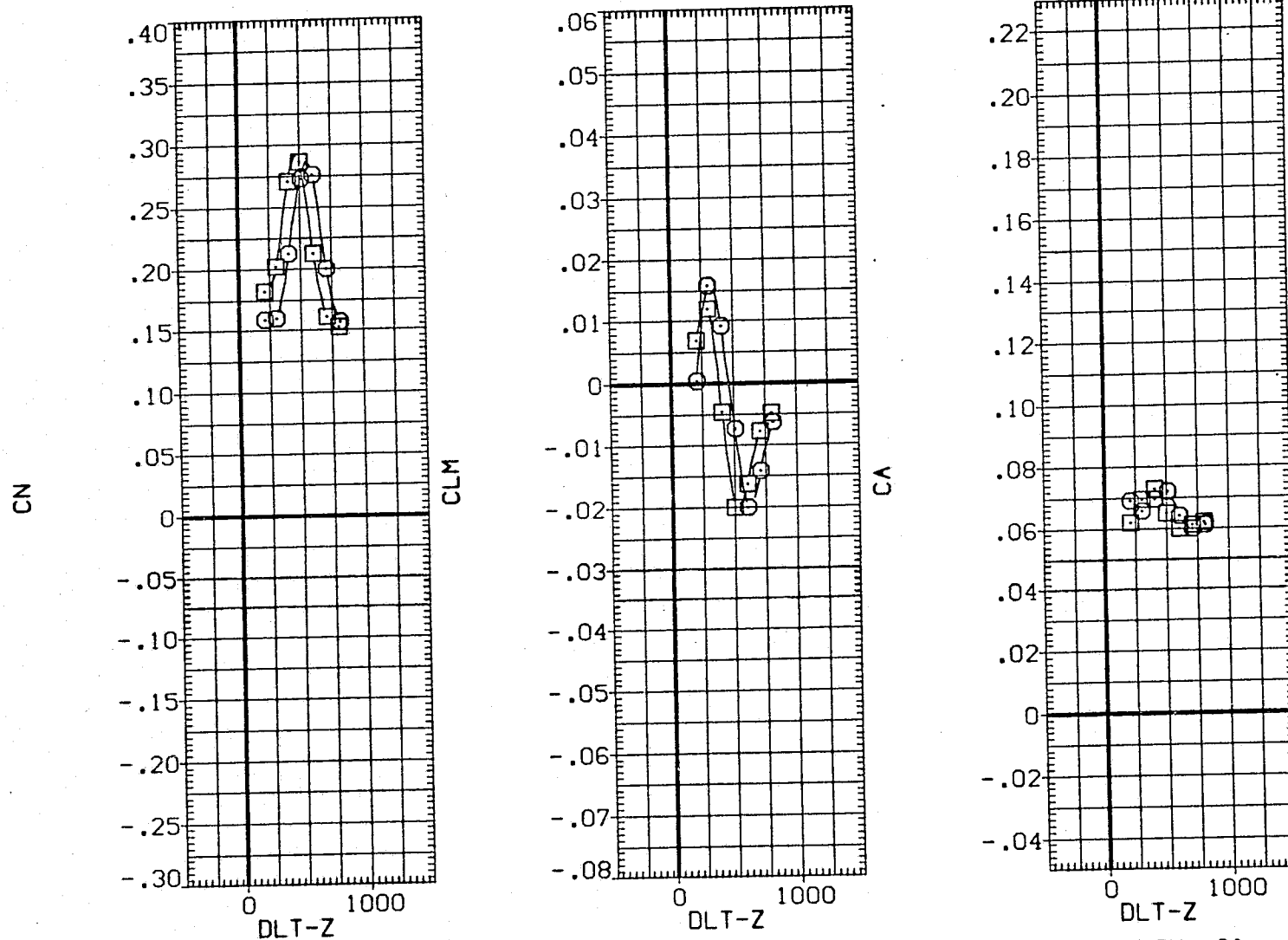


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR118)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.604	.000		10.000
□	200.460	3.000		-5.000
		DLTBT A	.000	MACH
		ATLRON	.000	ELEVON
		GRID	27.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

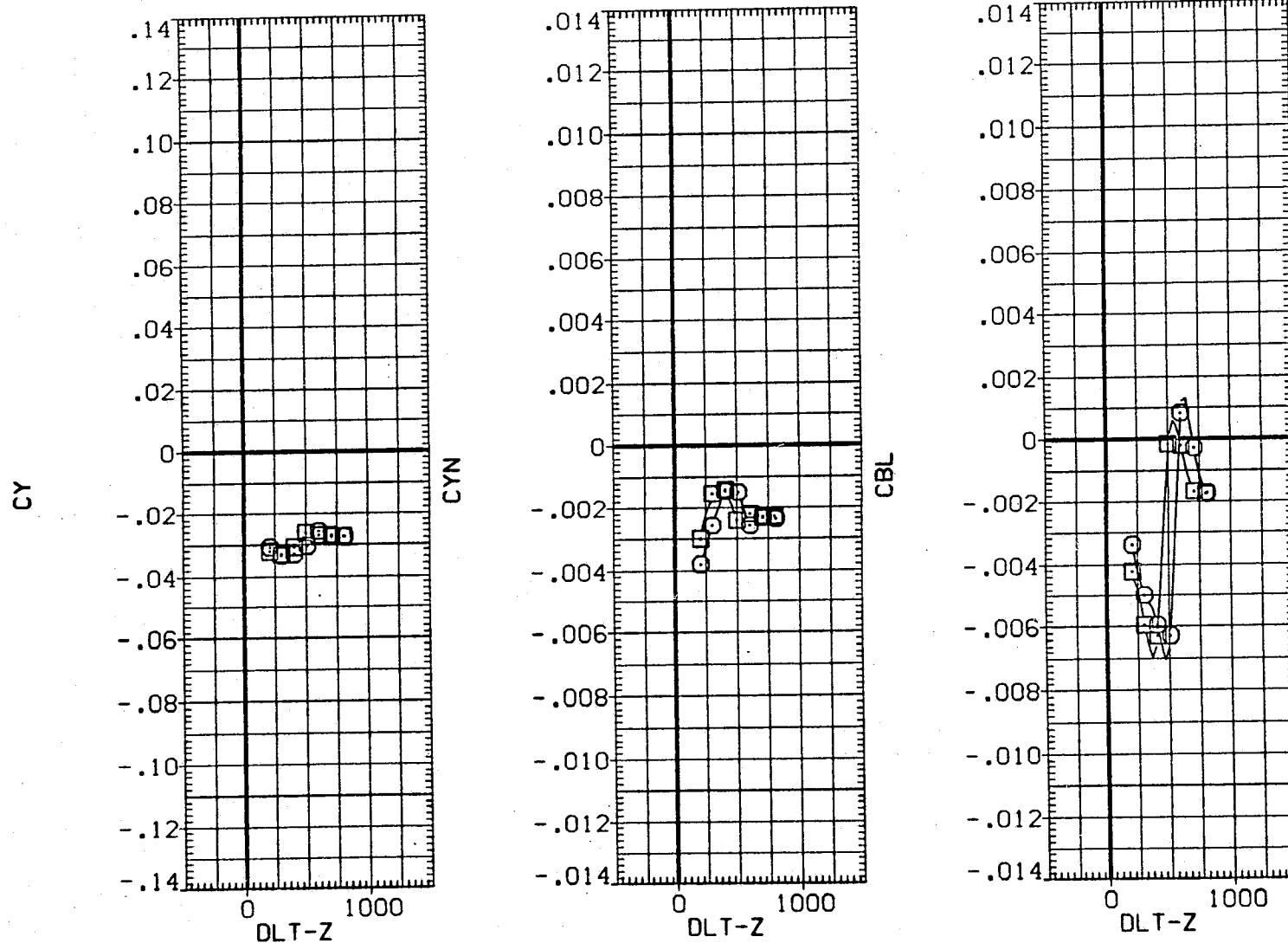


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR119)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.453	.000	10.000	-10.000
□	200.560	BETA 3.000	MACH 5.930	ELEVON .000
◇	400.610	DLTBT AILRON .000 GRID 27.000		

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	375.0000	IN. Y0
SCALE	.0100	IN. Z0

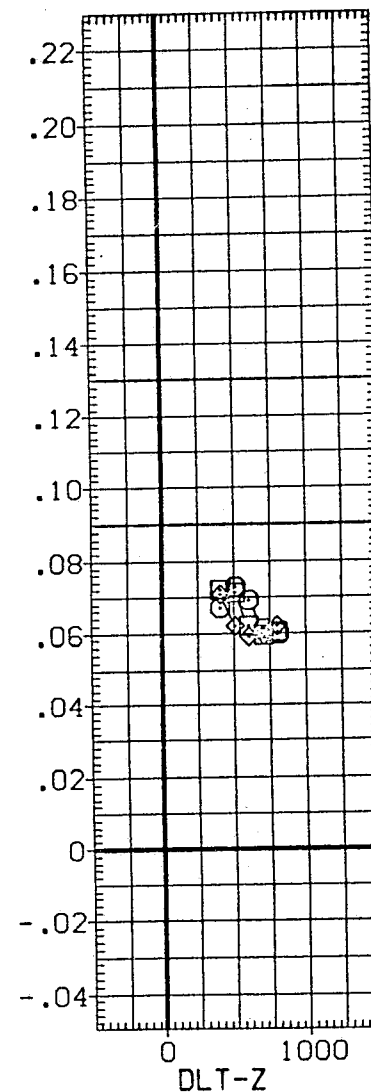
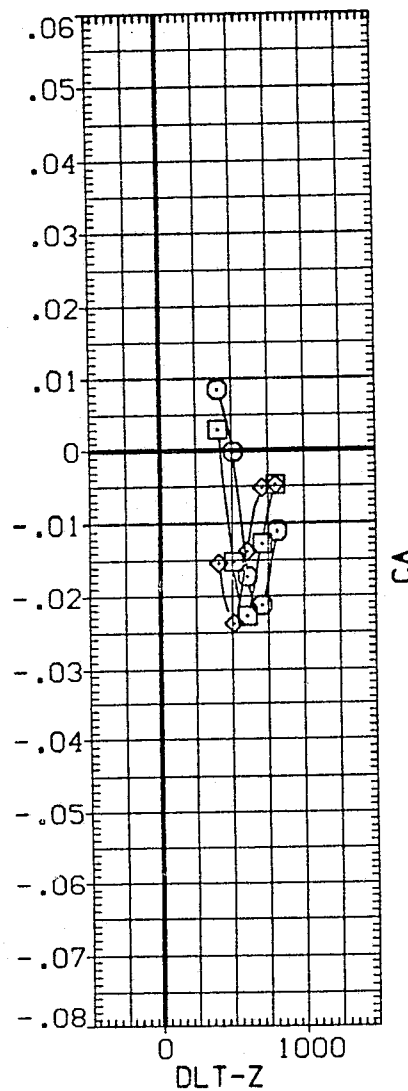
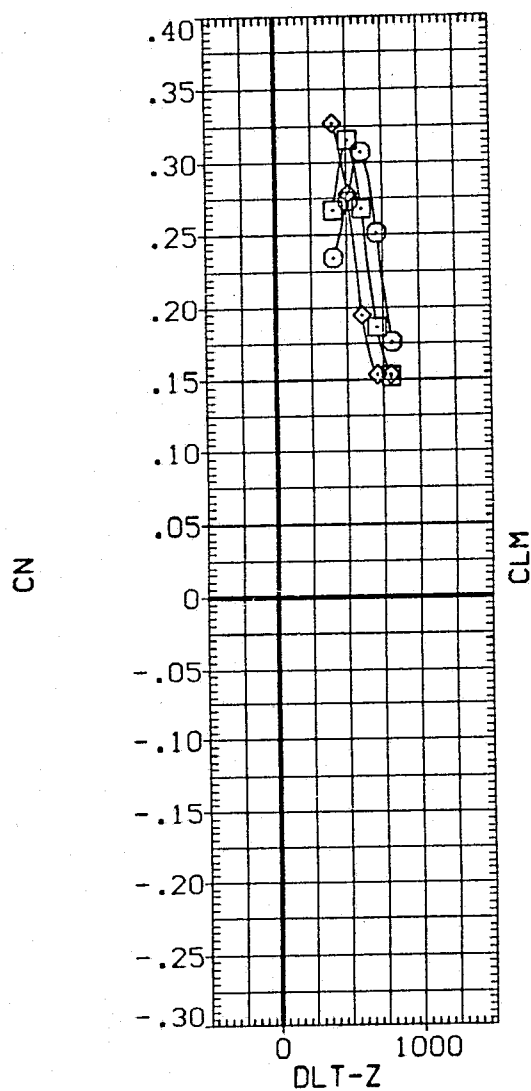


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR119)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.453	.000	ALPHA 10.000
□	200.560	BETA 3.000	DLTALF -10.000
◇	400.610	DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 27.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

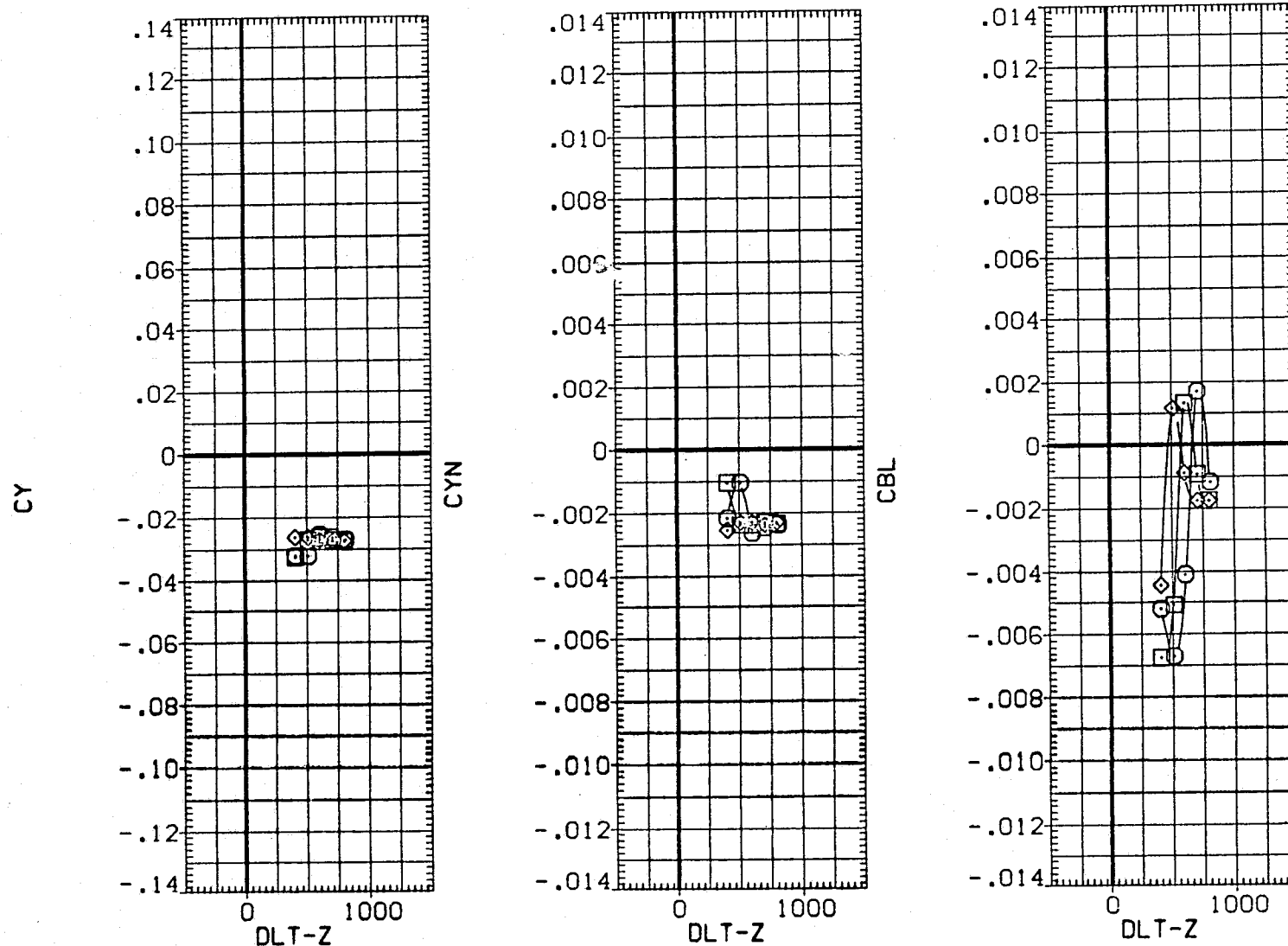


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR120)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.627			10.000
□	200.670	BETA	3.000	DLTALF -15.000
◇	400.400	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	27.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

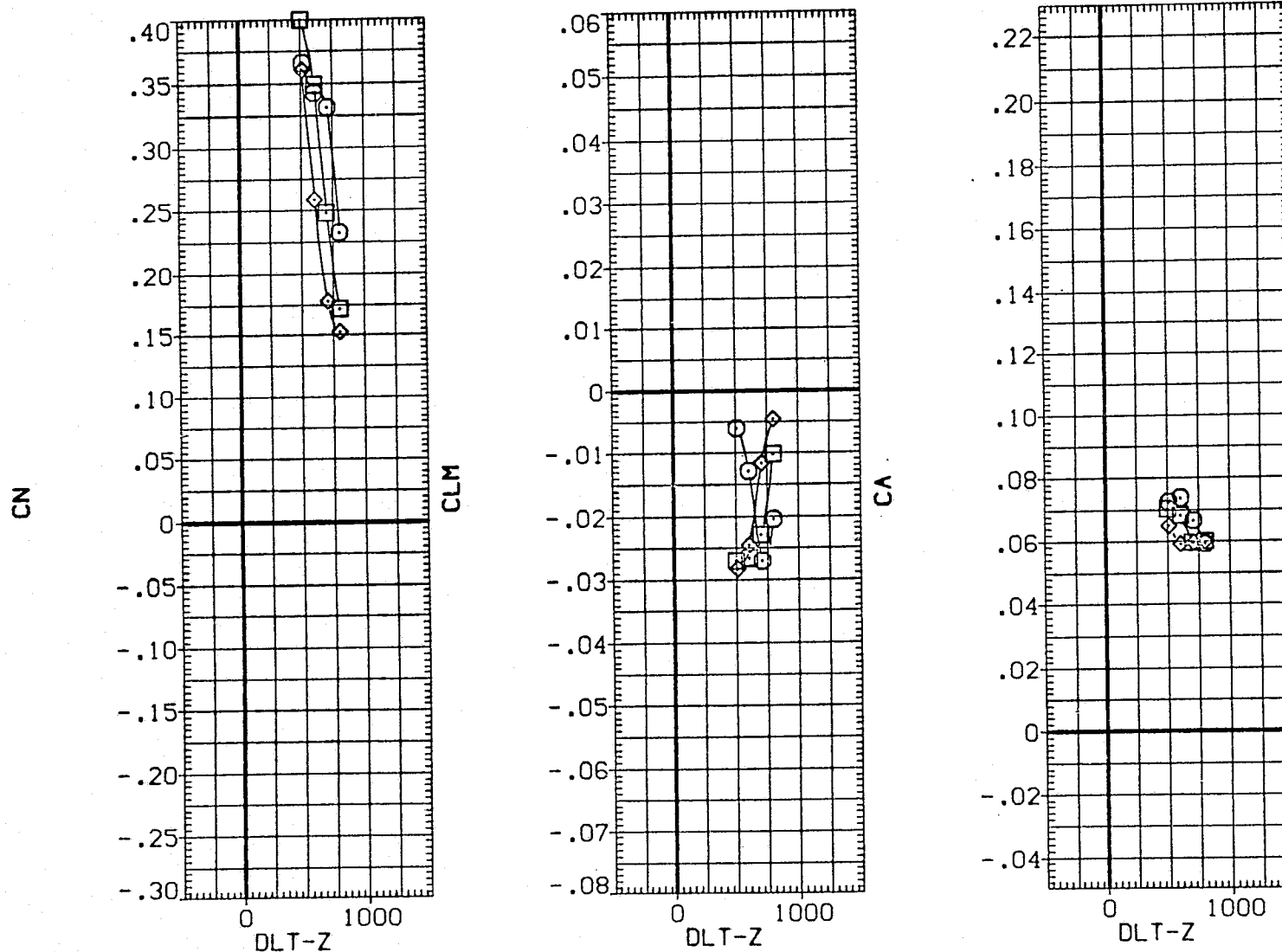


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR120)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	DLT-Y	ALPHA	DLT-X	DLT-Y
○	.627	.000	.000	10.000	.000	.000
□	200.670	BETA	3.000	DLTALF	-15.000	.000
◇	400.400	DLTBTA	.000	MACH	5.930	.000
		AILRON	.000	ELEVON	.000	.000
		GRID	27.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

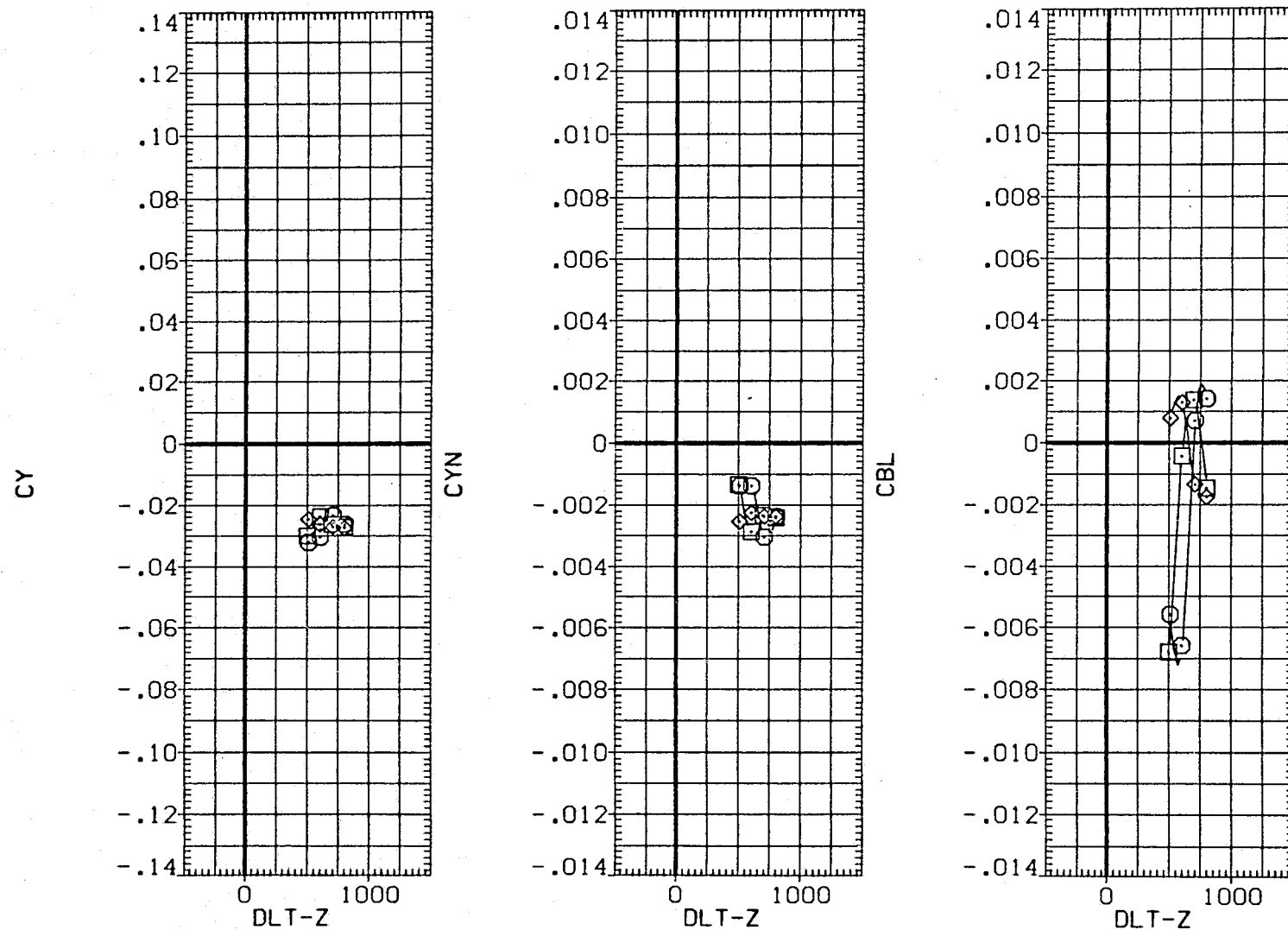


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR121)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	.000	ALPHA	10.000
□	200.530	BETA	3.000	DLTALF	-20.000
◇	400.610	DLTBTA	.000	MACH	5.930
		AIRLON	.000	ELEVON	.000
		GRID	27.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XO
YMRF	.0000	IN. YO
ZMRF	375.0000	IN. ZO
SCALE	.0100	

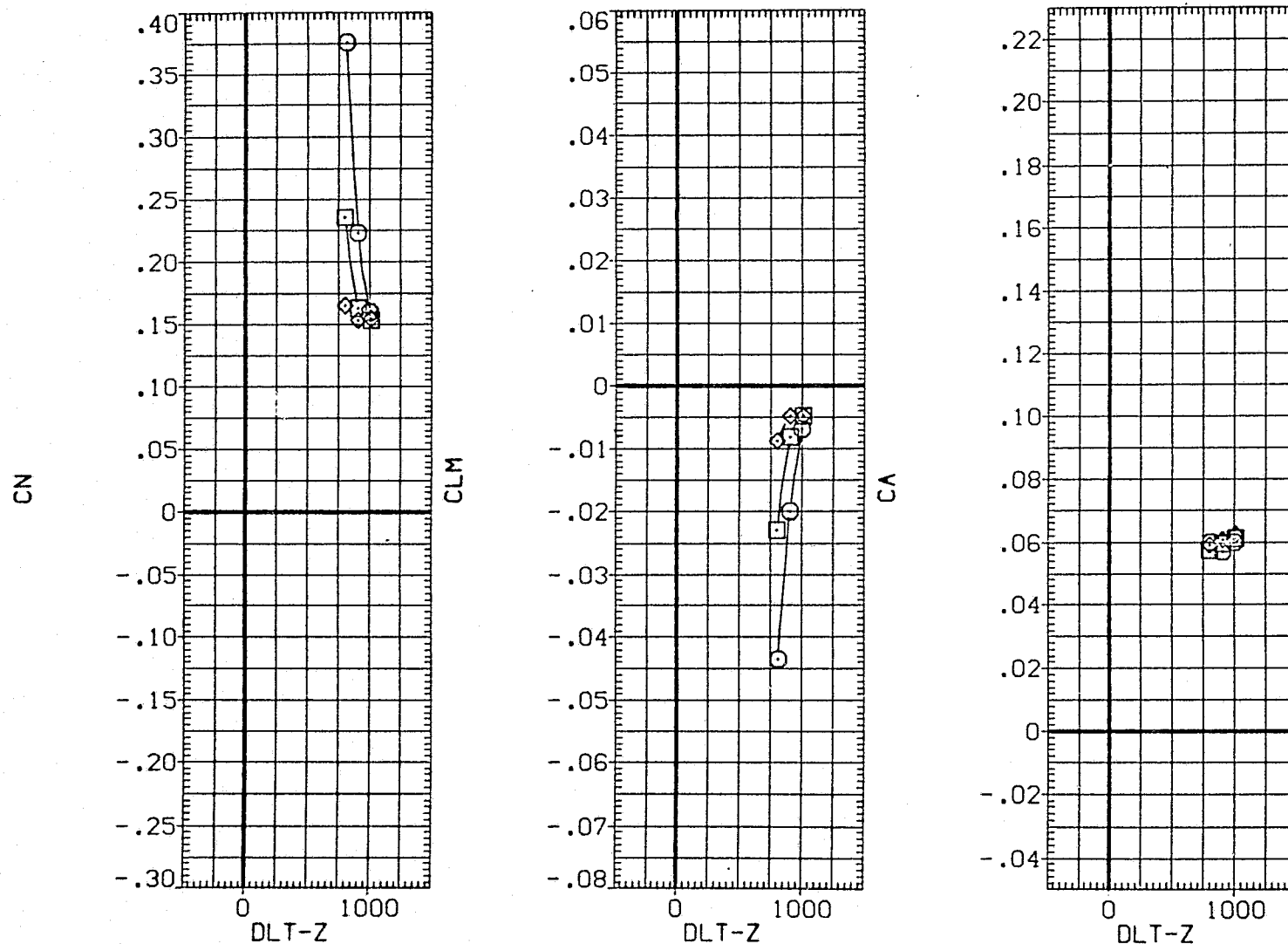


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR121)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.536	BETA	.000	ALPHA	10.000
□	200.530	DLTBTA	3.000	DLTALF	-20.000
◇	400.610	AILRON	.000	MACH	5.930
		GRID	27.000	ELEVON	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

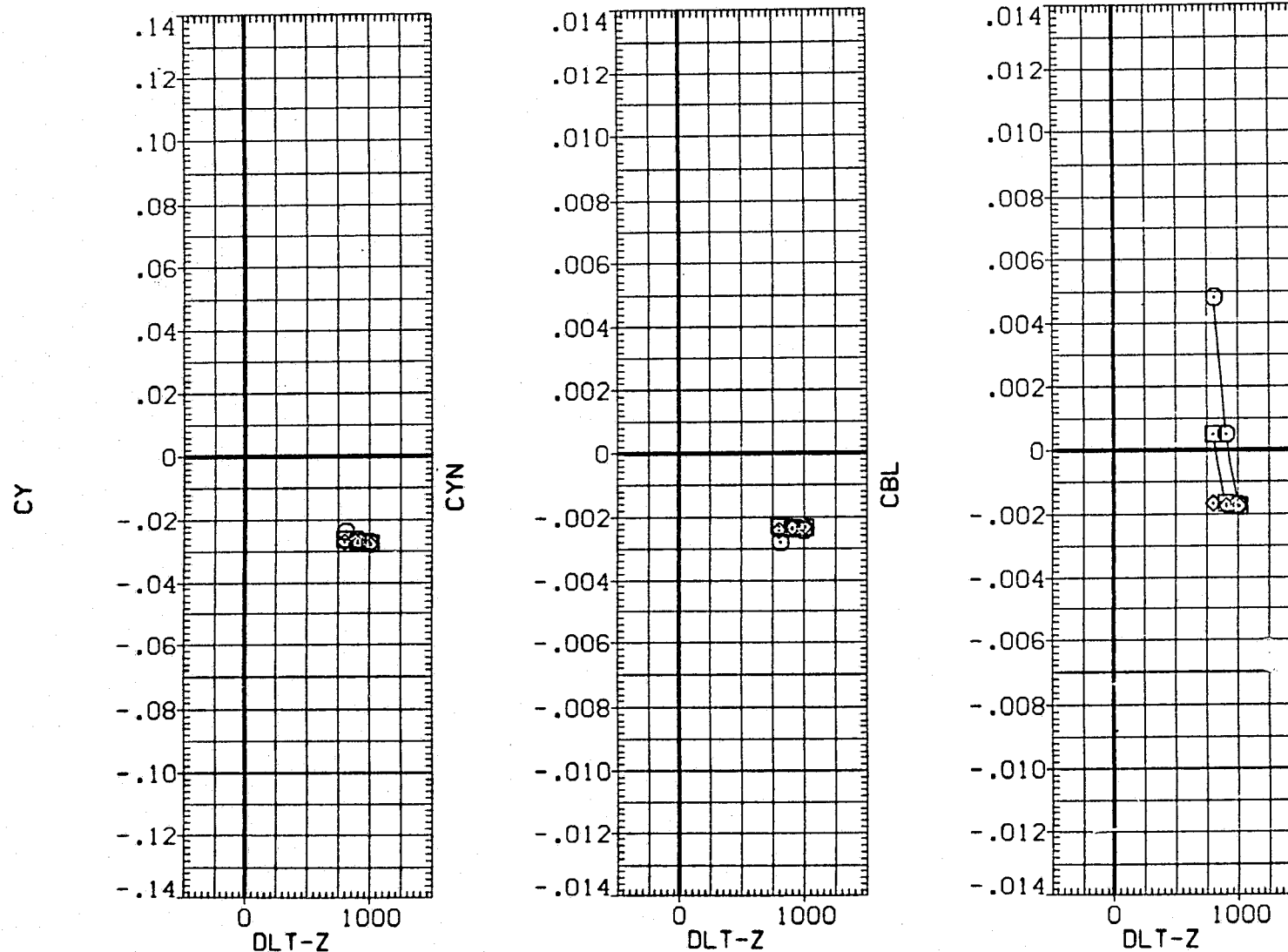


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR042)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.511	.000	ALPHA	-10.000
□	200.500	.000	DLTALF	.000
◇	400.370	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	9.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

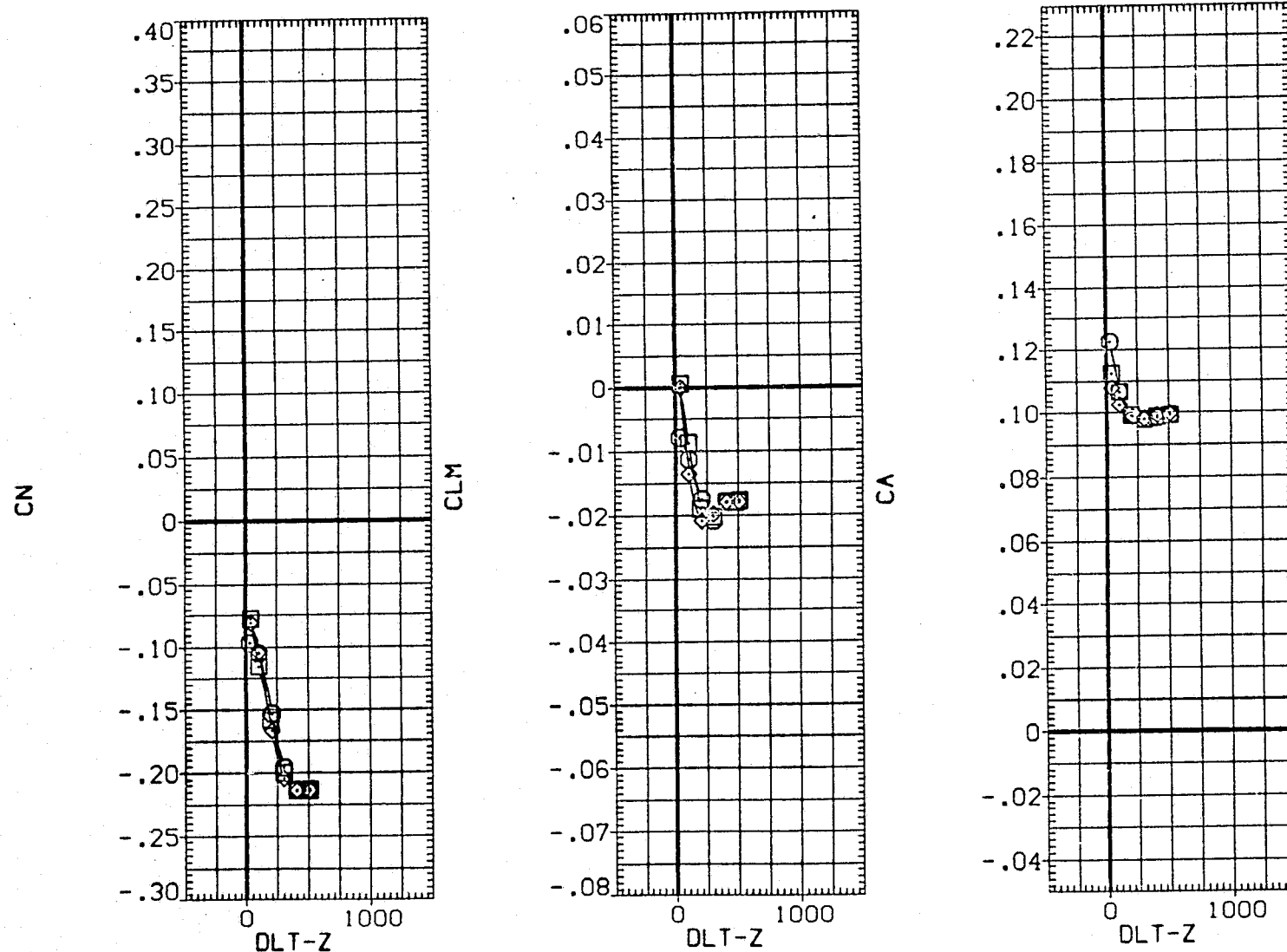


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR042)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.511	.000	-10.000	.000
□	200.500	.000	5.930	.000
◇	400.370	.000	9.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FY.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

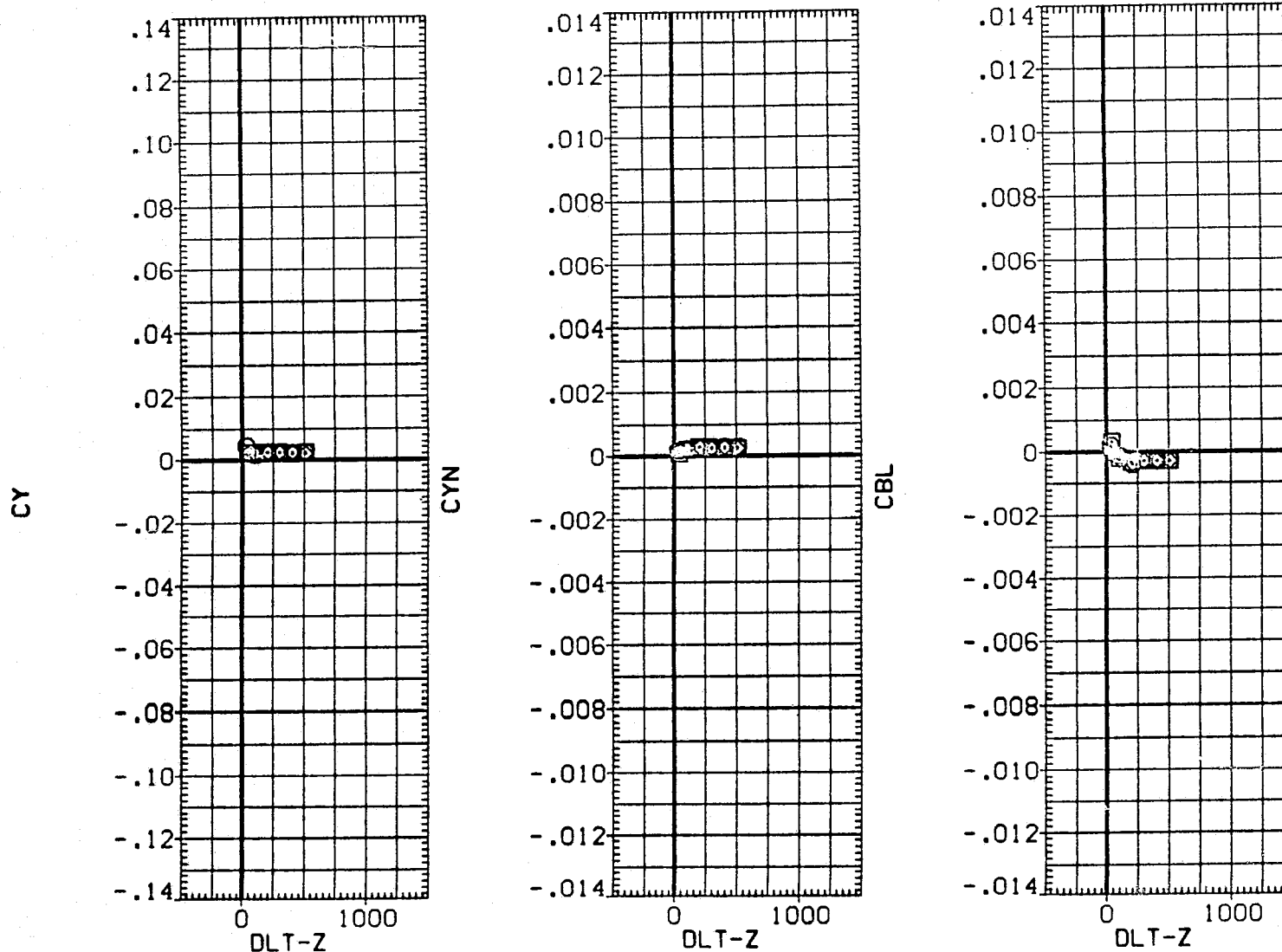


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR043)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.391	.000	ALPHA -10.000
□	200.380	.000	DLTALF -5.000
		.000	MACH 5.930
		.000	ELEVON .000
		9.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

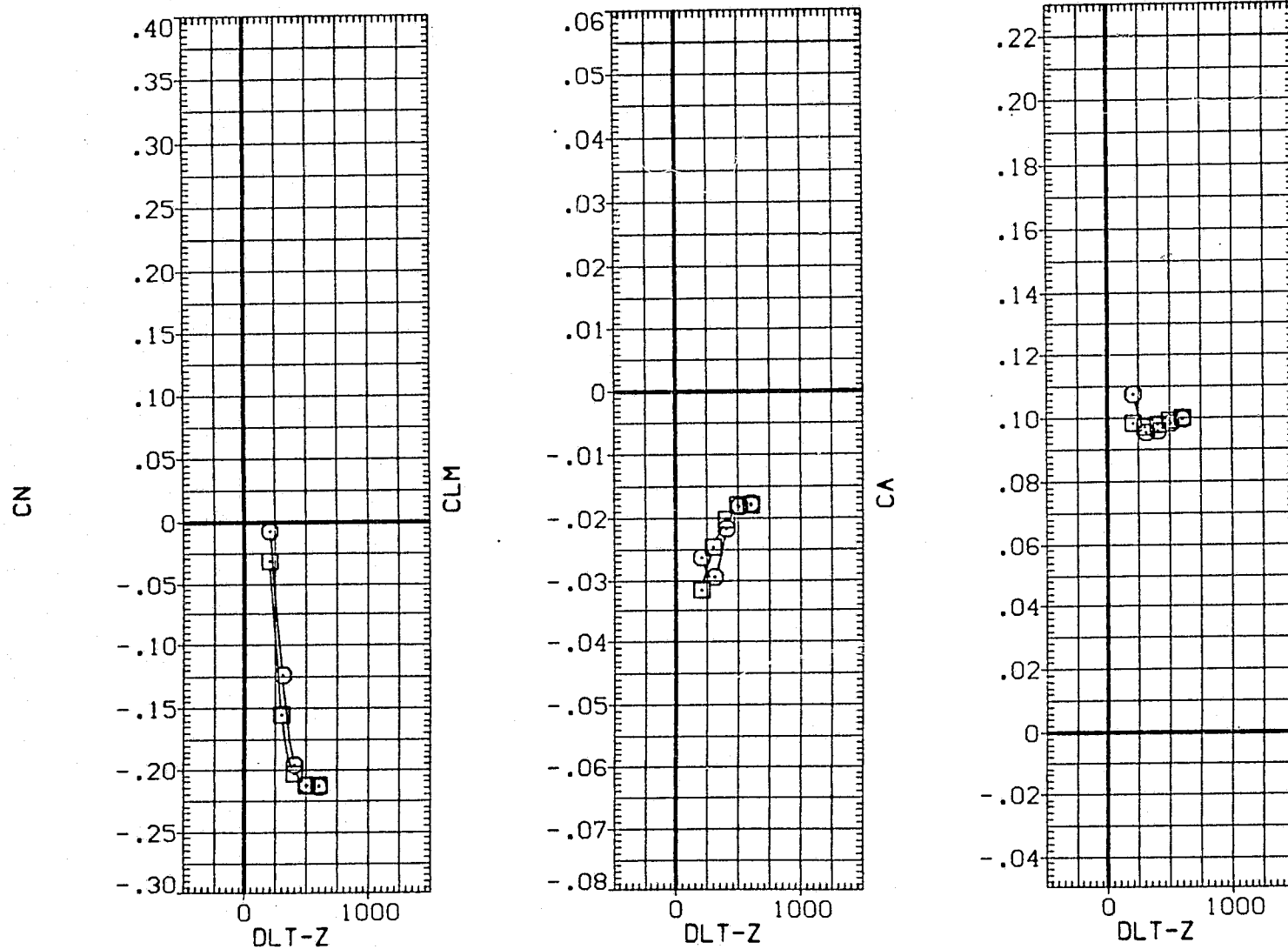


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR043)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.391	BETA	.000	ALPHA
□	200.380	DLTBTA	.000	DLTALF
		AILRON	.000	MACH
		GRID	9.000	ELEVON

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

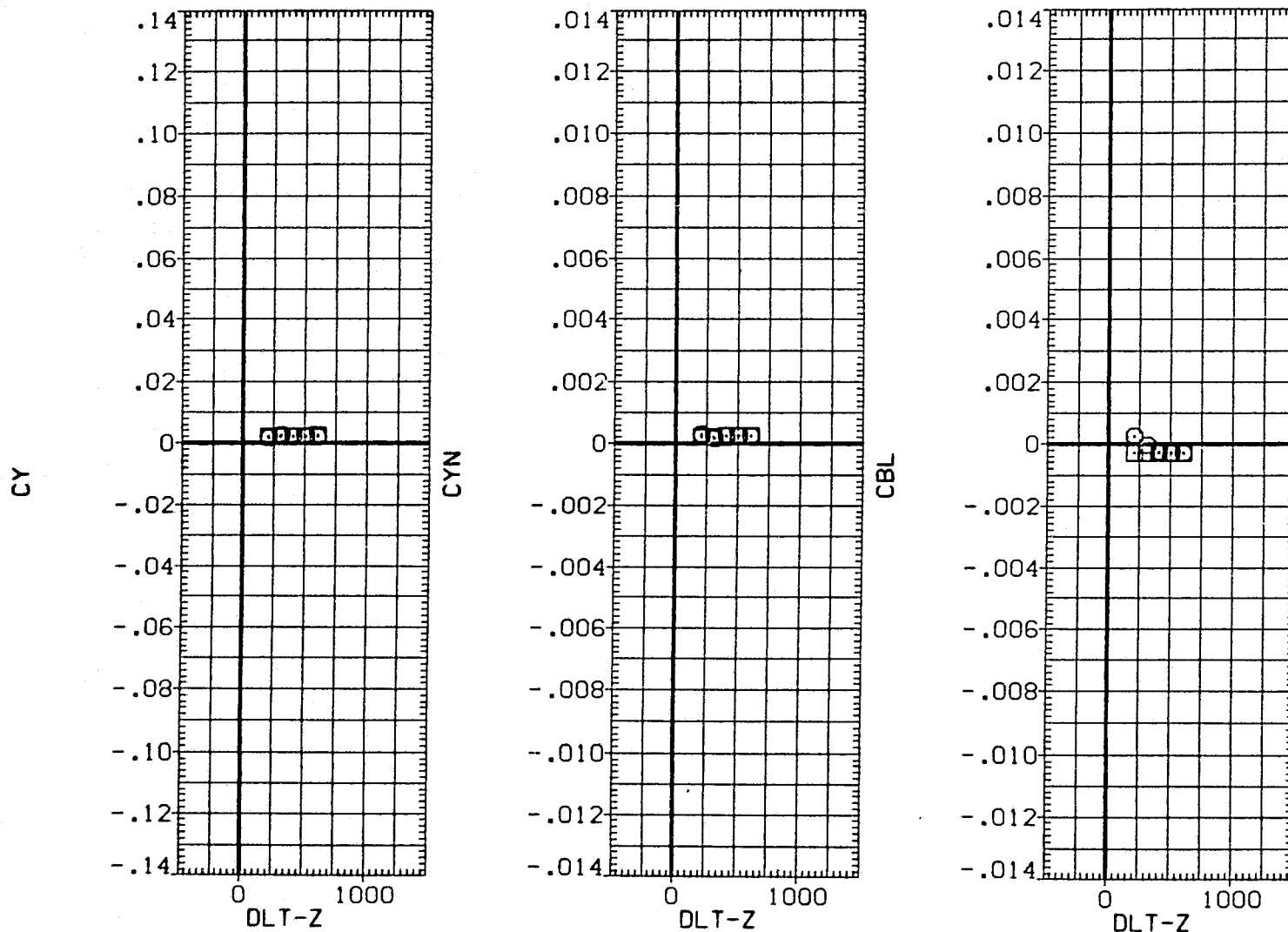


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR044)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	.000	ALPHA	-10.000
○	.449	BETA	.000	DLTALF	-10.000
□	200.420	DLTBTA	.000	MACH	5.930
◇	400.430	AILRON	.000	ELEVON	.000
		GRID	9.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

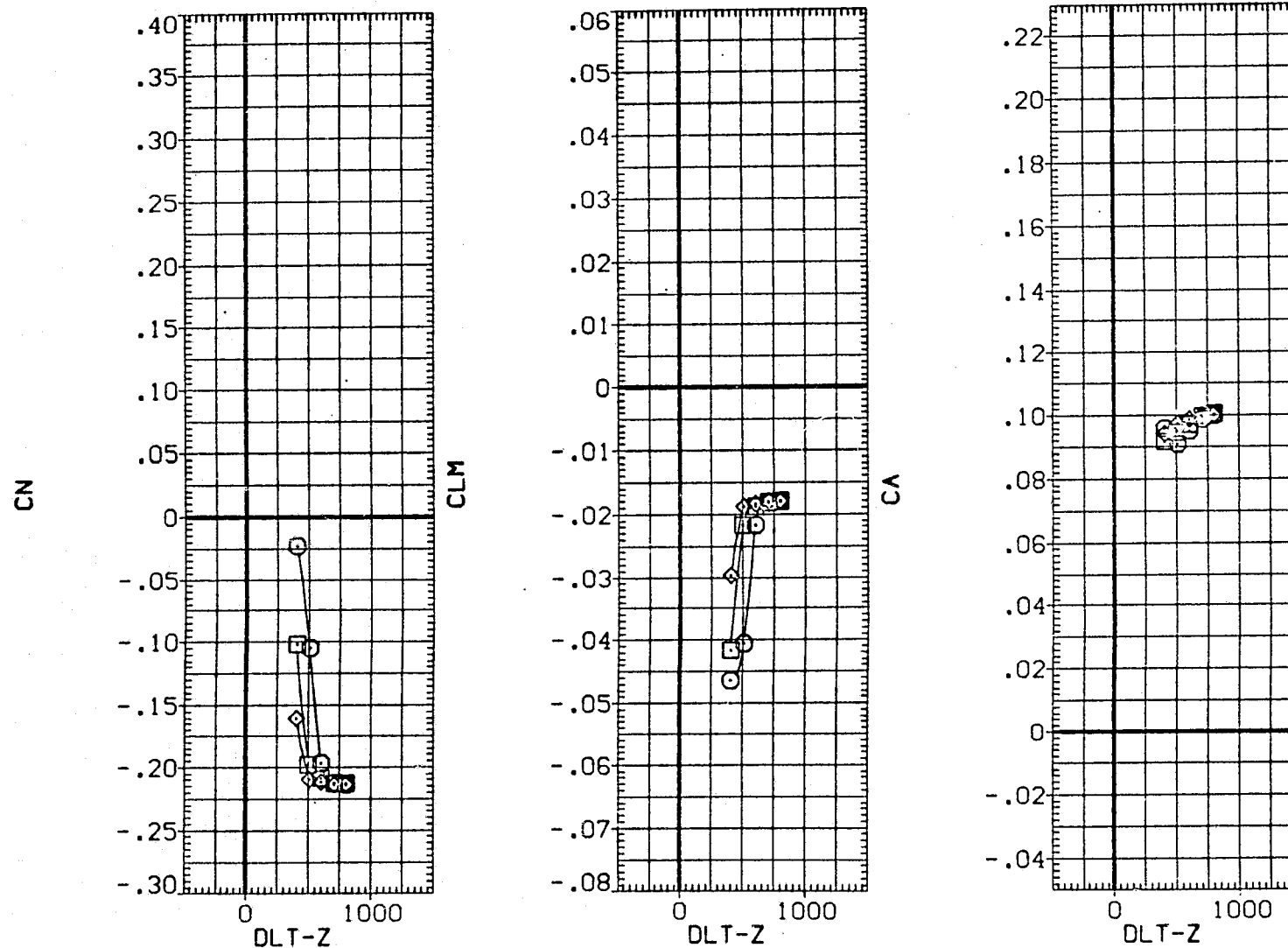


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR044)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.449		ALPHA	-10.000
□	200.420	BETA	DLTALF	-10.000
◇	400.430	DLTBTA	MACH	5.930
		AIRTON	ELEVON	.000
		GRID		9.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

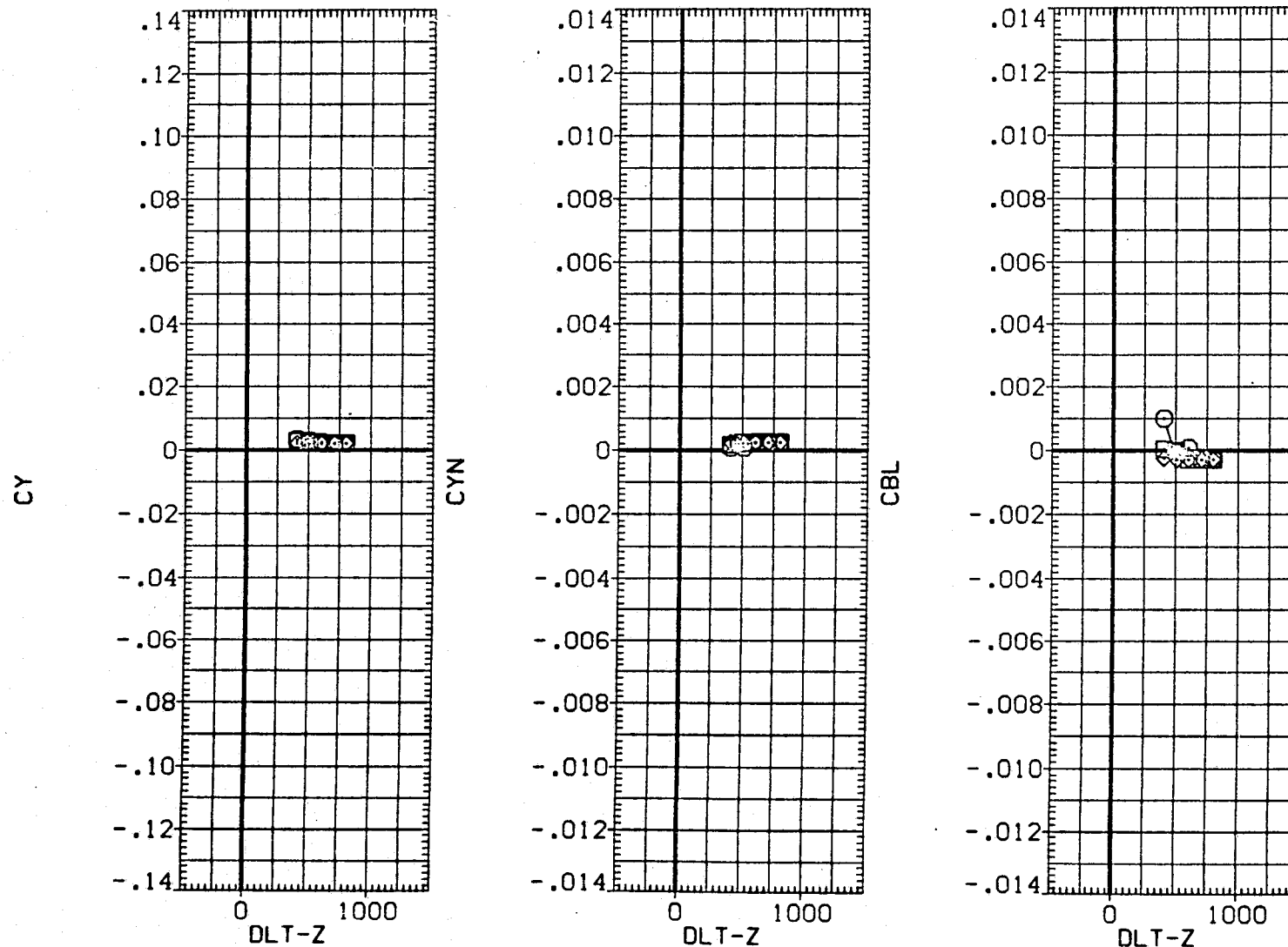


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR045)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.384	.000	ALPHA	-10.000
□	200.290	.000	DLTALF	-15.000
◇	400.460	.000	MACH	5.930
		.000	ELEVON	.000
		9.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

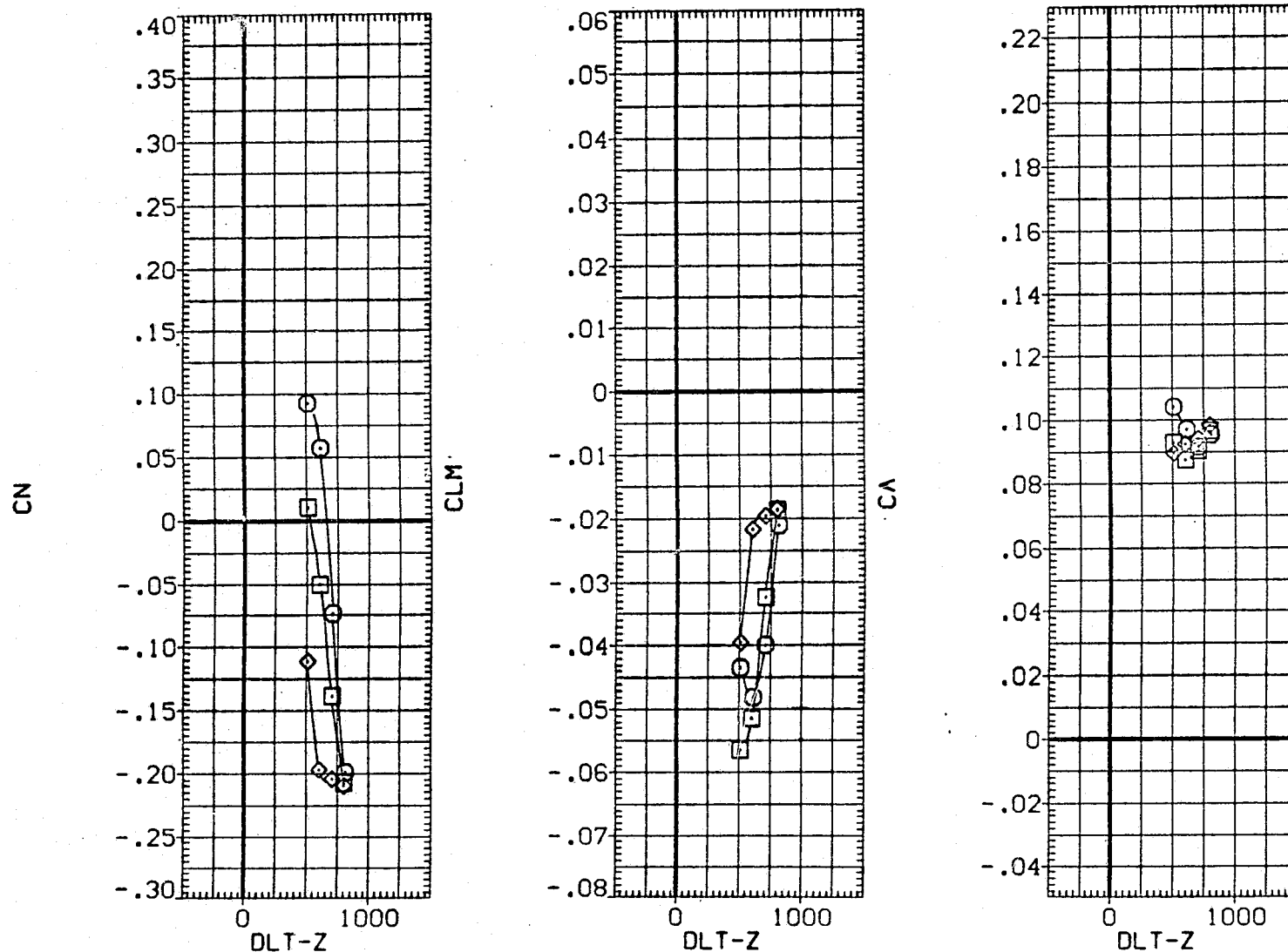


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR045)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.384	.000	ALPHA -10.000
□	200.290	.000	DLTALF -15.000
◇	400.460	.000	MACH 5.930
		.000	ELEVON .000
		GRID	9.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

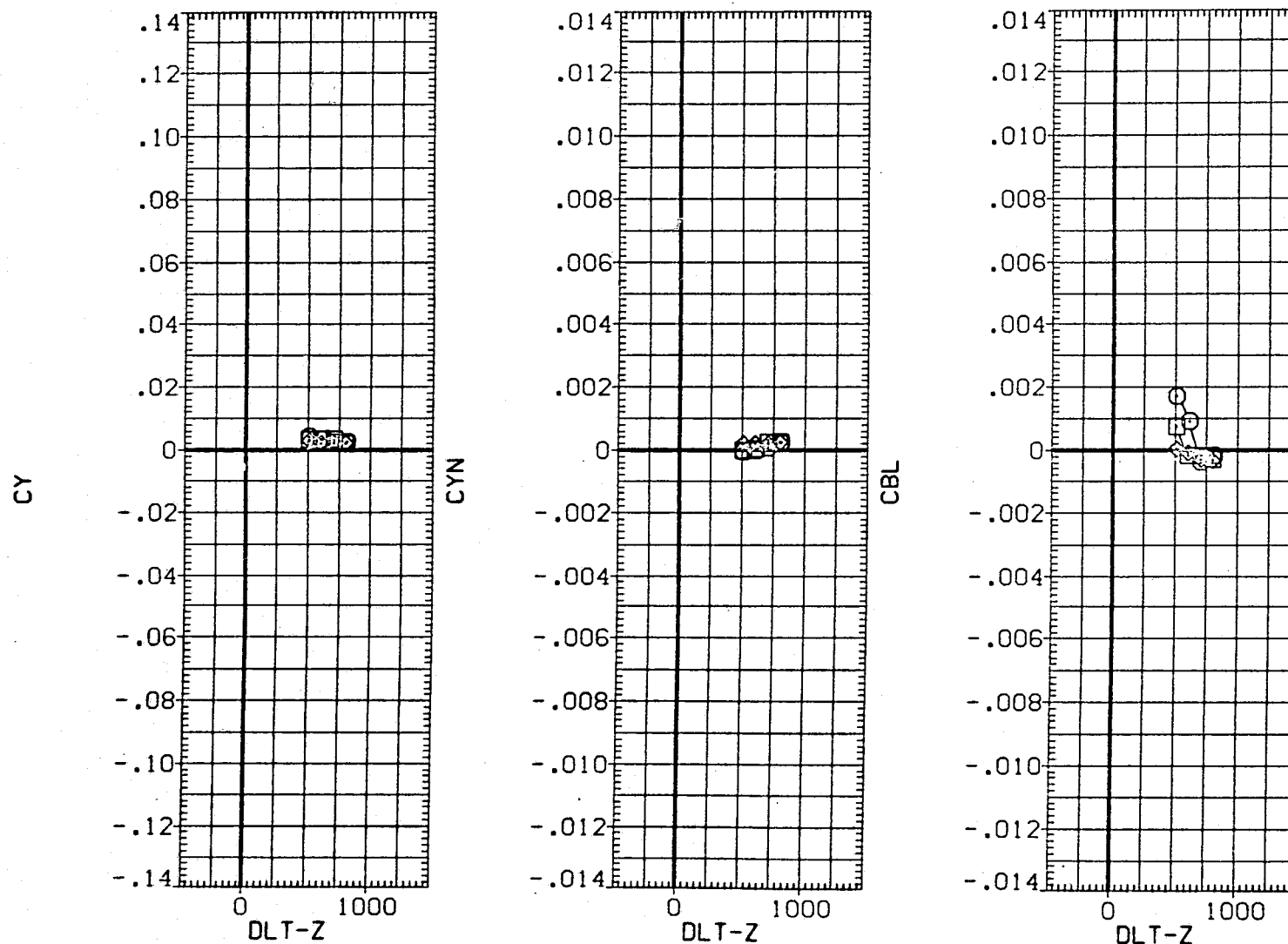


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR038)

SYMBOL		PARAMETRIC VALUES		
○	DLT-X .534	DLT-Y .000	ALPHA	-10.000
□	200.560	BETA 3.000	DLTALF	.000
		DLTBTX .000	MACH	5.930
		AIRLON .000	ELEVON	.000
		GRID 8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

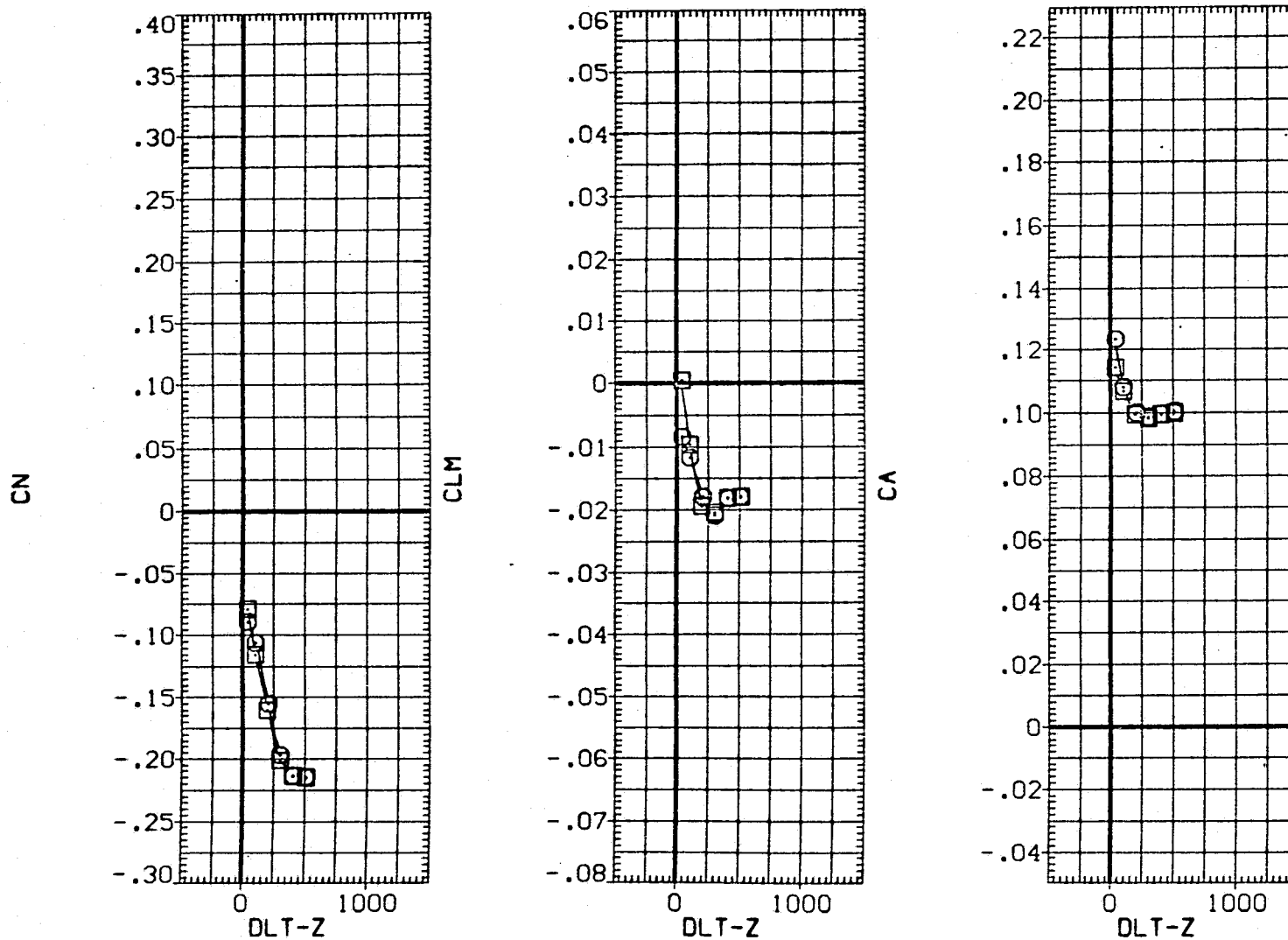


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR038)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.534	BETA	.000	ALPHA
□	200.560	DLTBT	3.000	DLTALF
		AILRON	.000	MACH
		GRID	8.000	ELEVON
				.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

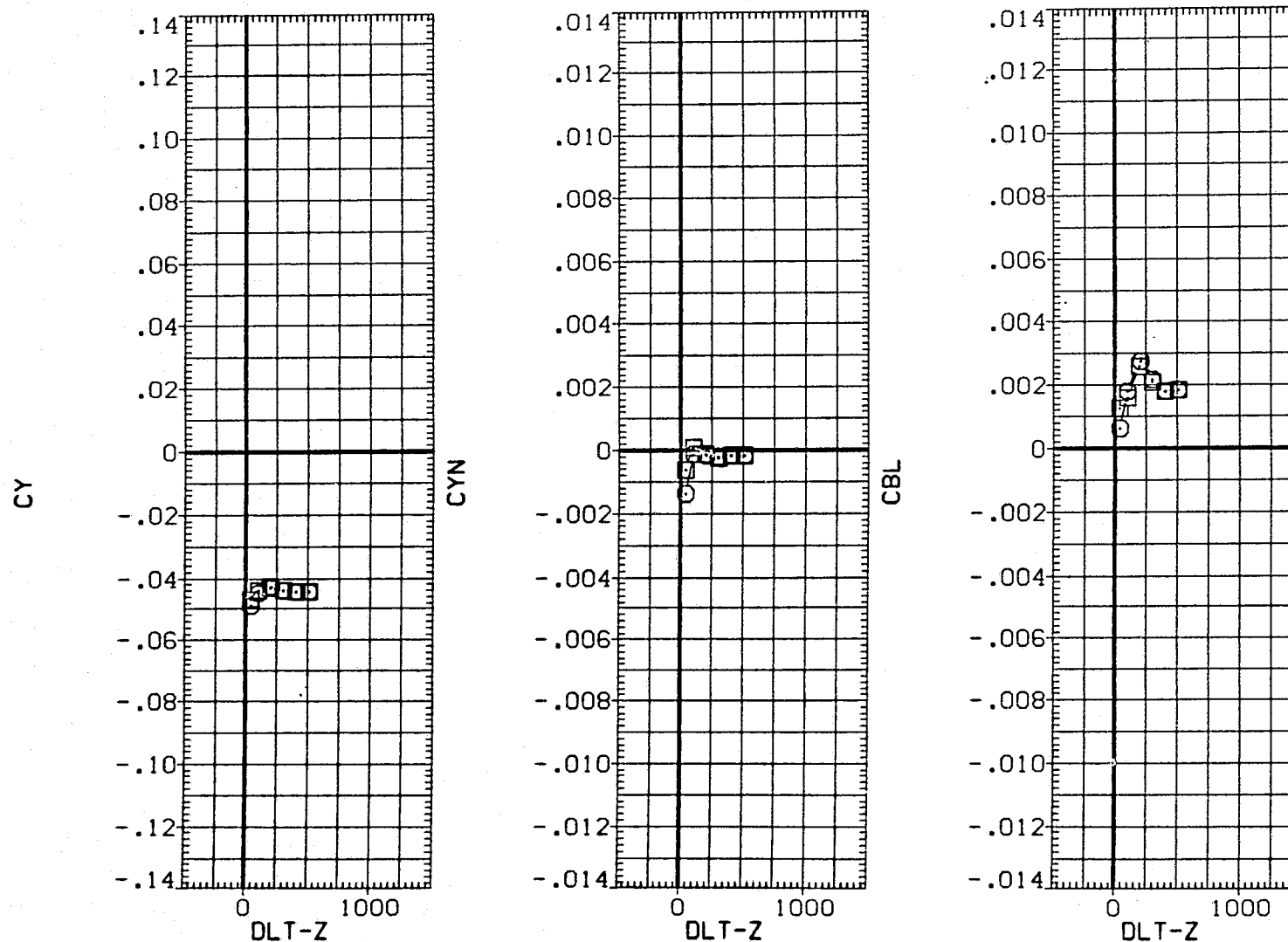


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR039)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.433	.000		-10.000
□	200.430	3.000		-5.000
		.000		5.930
		.000		.000
		8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

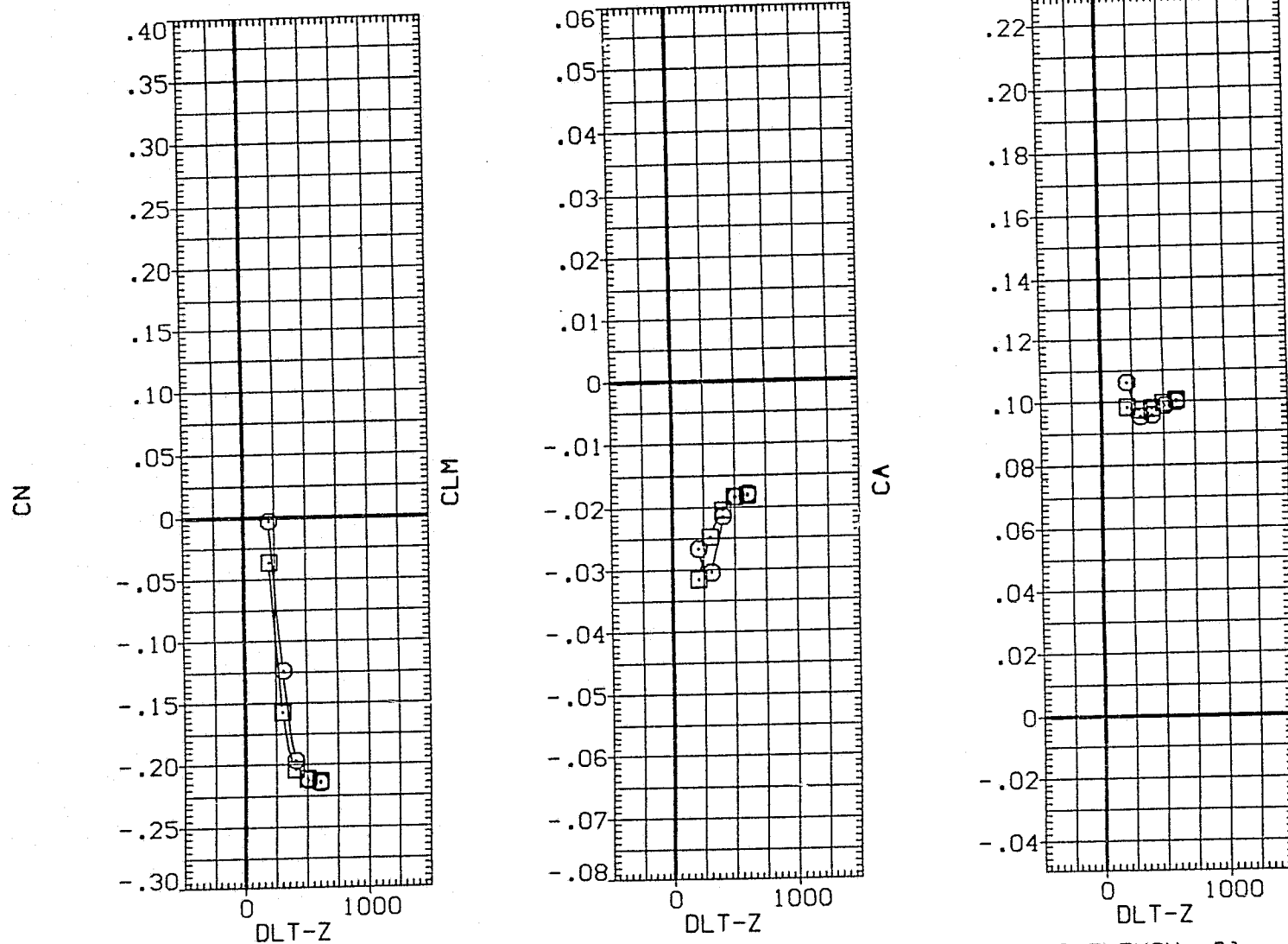


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR039)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.433		.000	-10.000
□	200.430		3.000	-5.000
	DLTBT		.000	5.930
	AIRCON		.000	.000
	GRID		8.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

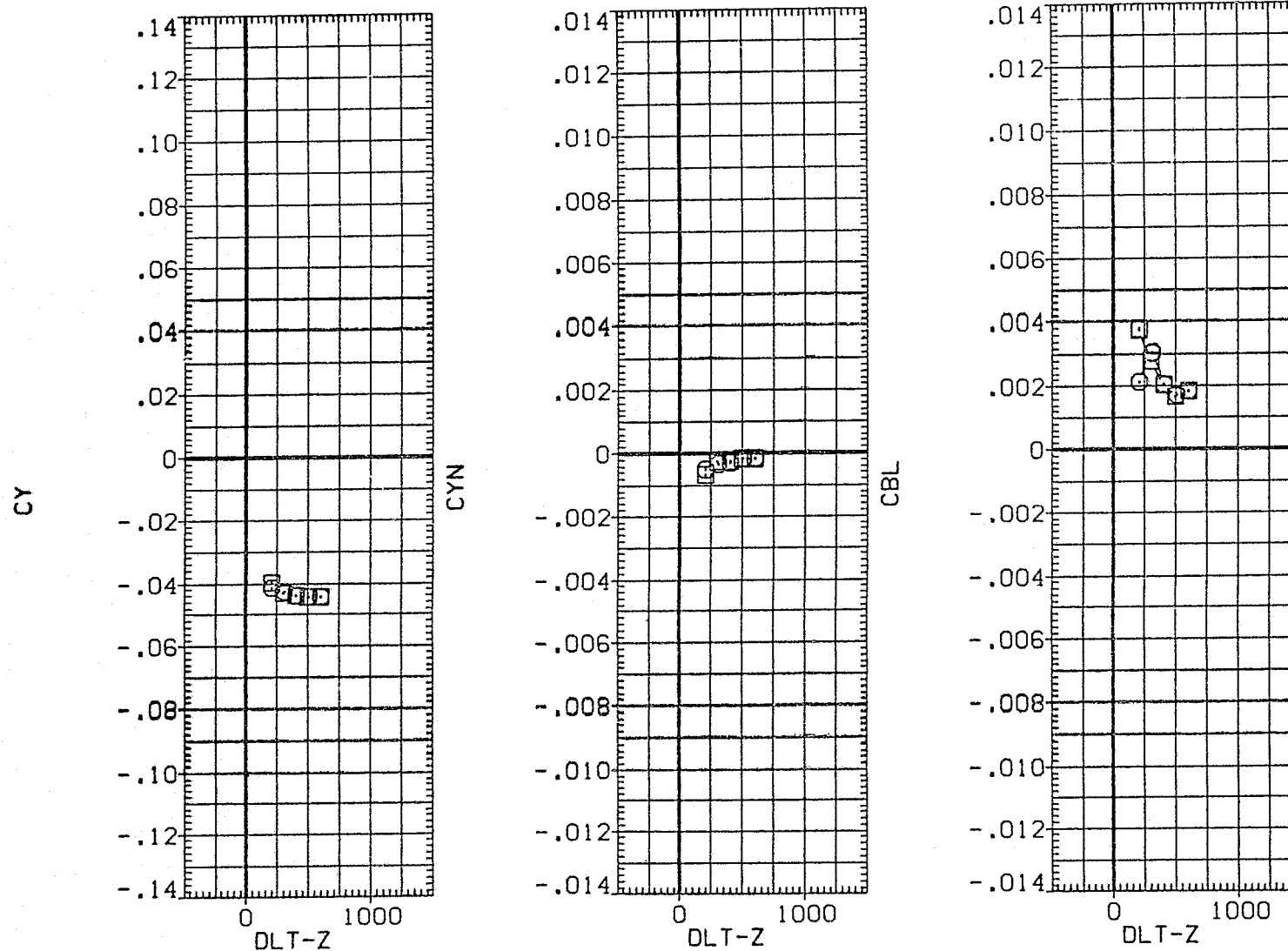


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR040)

SYMBOL		DLT-X	PARAMETRIC VALUES			
○		.554	DLT-Y	.000	ALPHA	-10.000
□		200.500	BETA	3.000	DLTALF	-10.000
◇		400.480	DLTBTA	.000	MACH	5.930
			AILRON	.000	ELEVON	.000
			GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

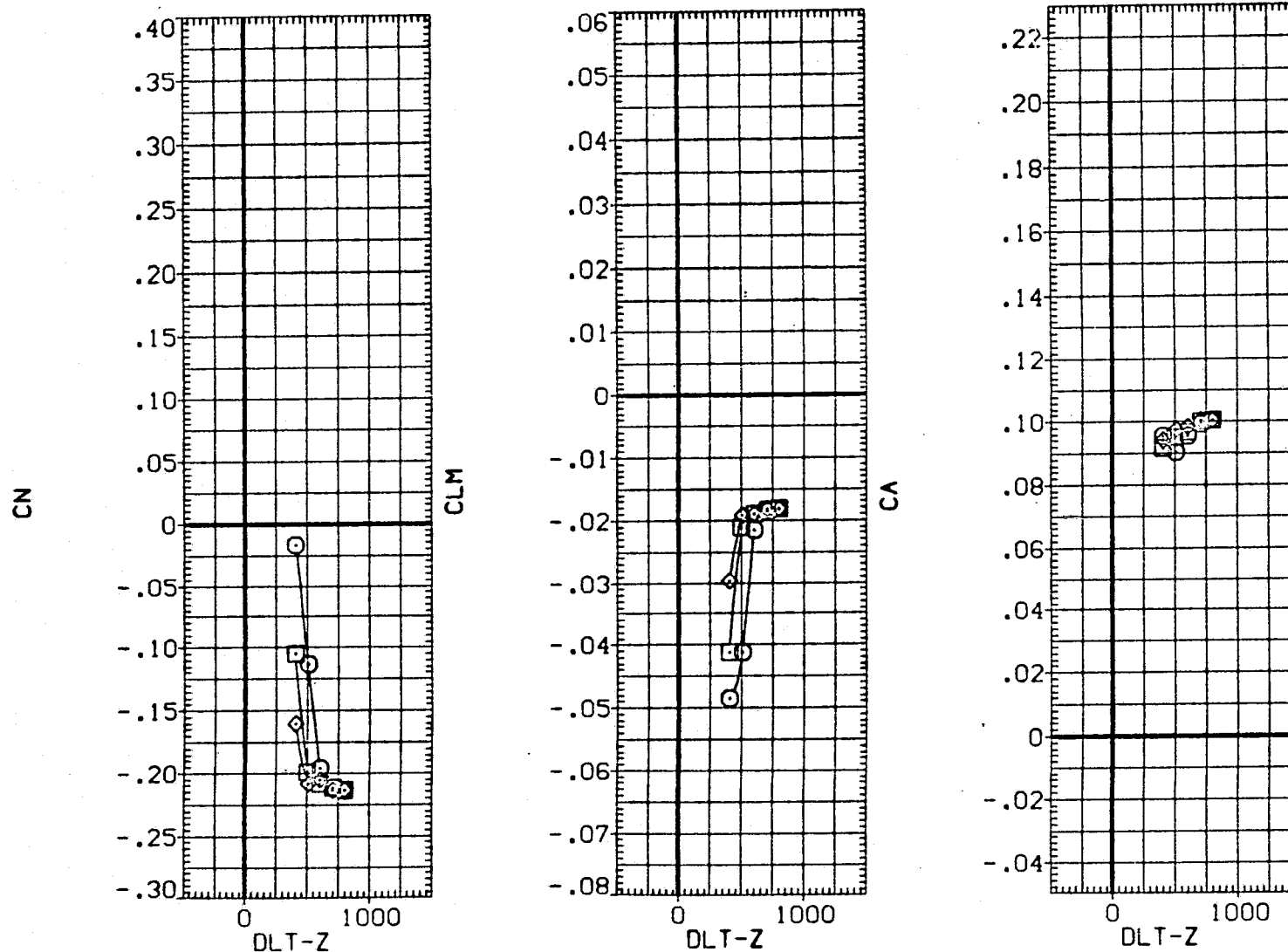


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR040)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	.000	ALPHA	-10.000
□	200.500	BETA	3.000	DLTALF	-10.000
◇	400.480	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	8.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRF	1089.6000 IN. X0
YMRF	.0000 IN. Y0
ZMRF	375.0000 IN. Z0
SCALE	.0100

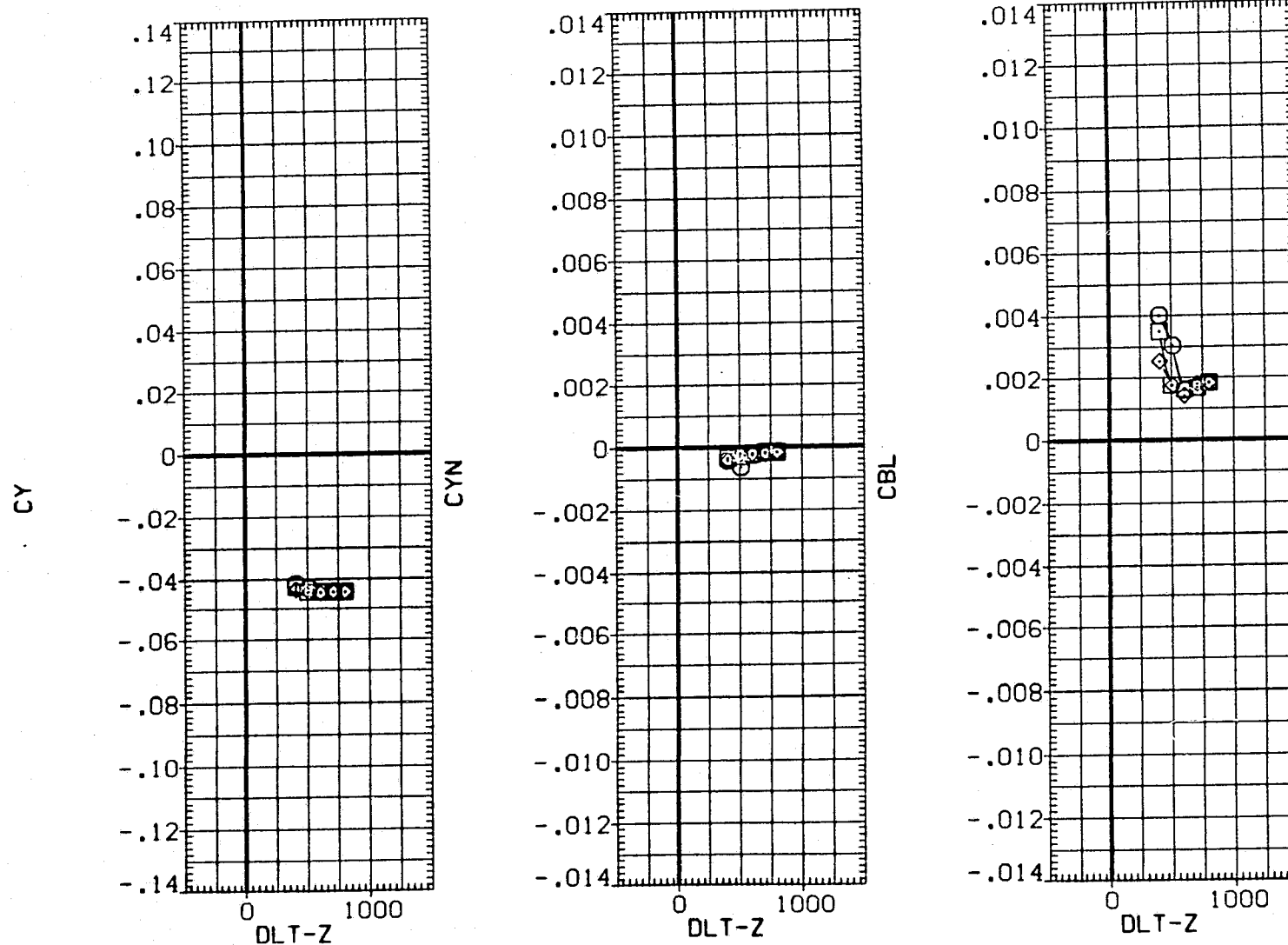


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR041)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.493		.000	-10.000
□	200.470	BETA	3.000	-15.000
◇	400.560	DLTBTA	.000	5.930
		AILRON	.000	ELEVON
		GRID	8.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

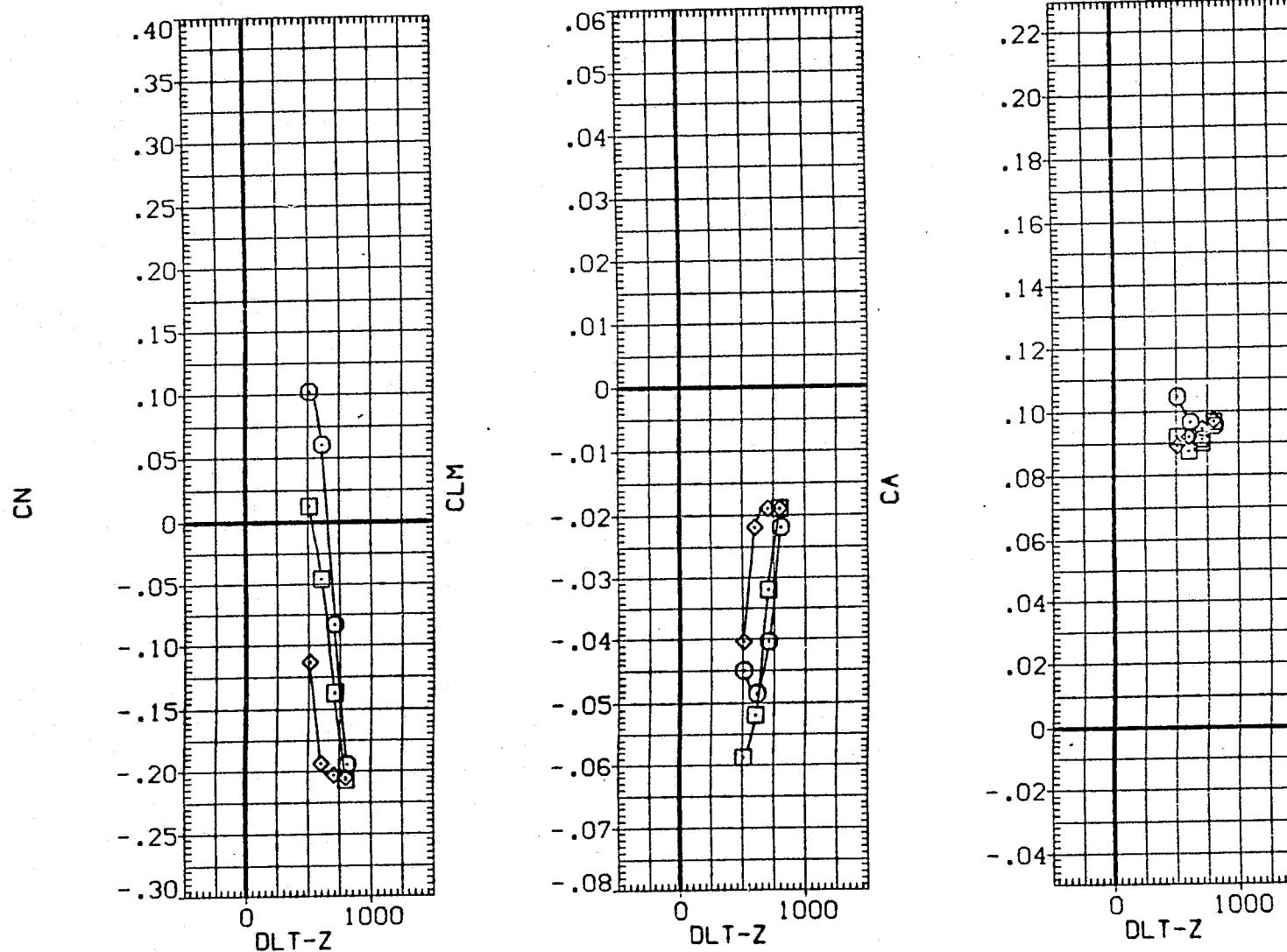


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR041)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.493	.000	ALPHA -10.000
□	200.470	3.000	DLTALF -15.000
◇	400.560	.000	MACH 5.930
		.000	ELEVON .000
		8.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

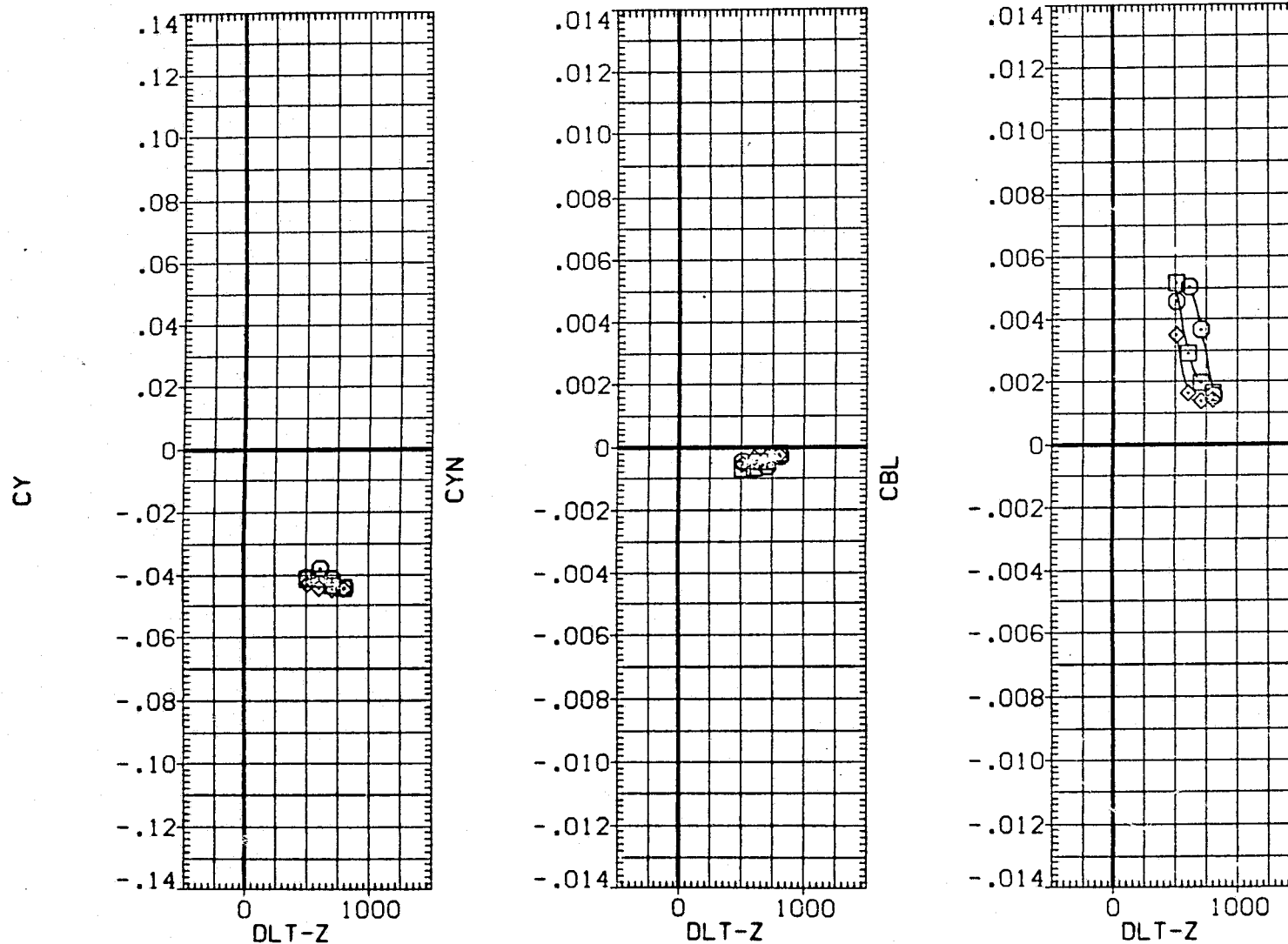


FIGURE 4 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR100)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.479	.000	ALPHA	.000
□	400.440	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		13.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

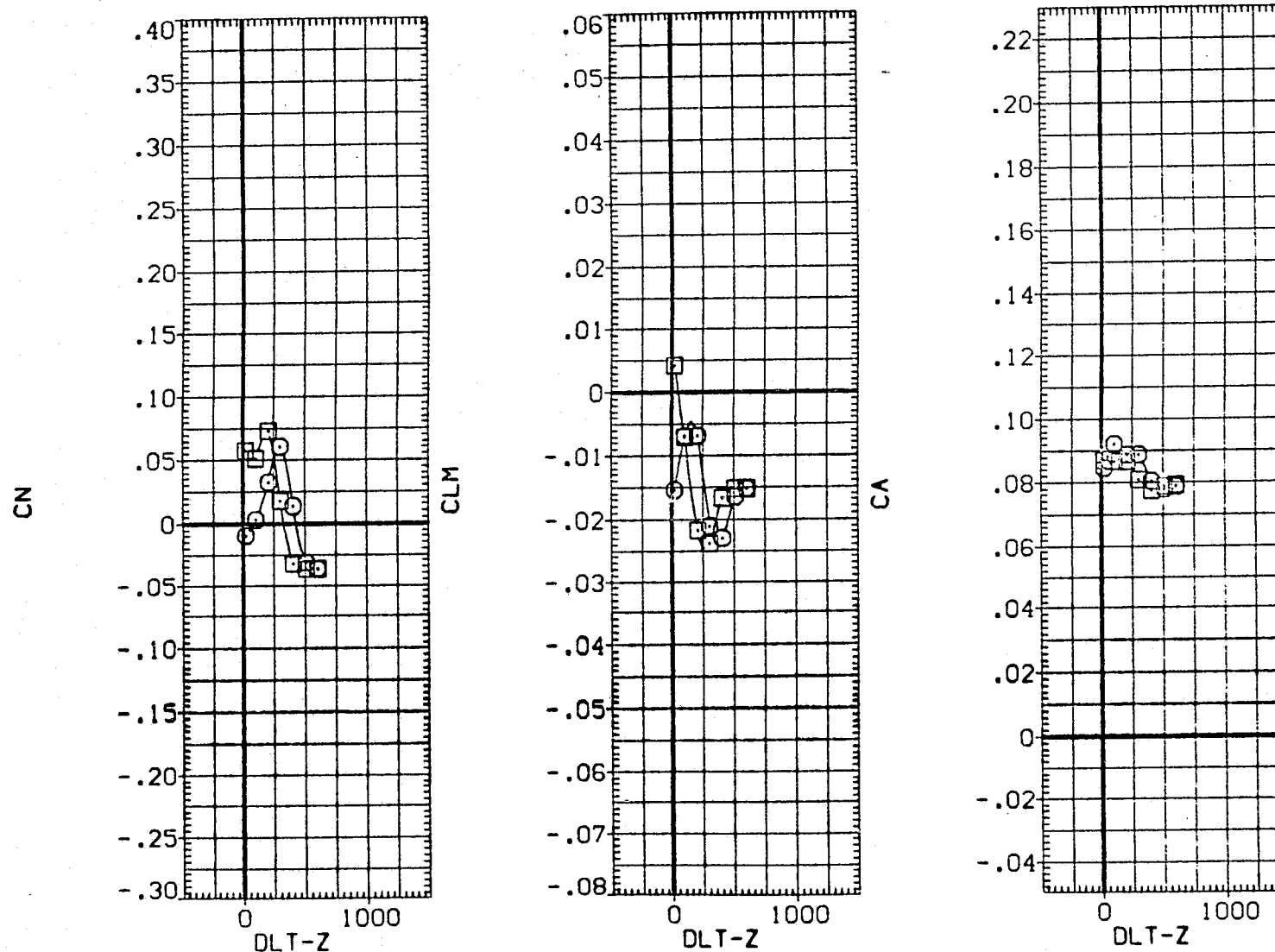


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR100)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.479	.000	ALPHA	.000
□	400.440	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		GRID	13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ, FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

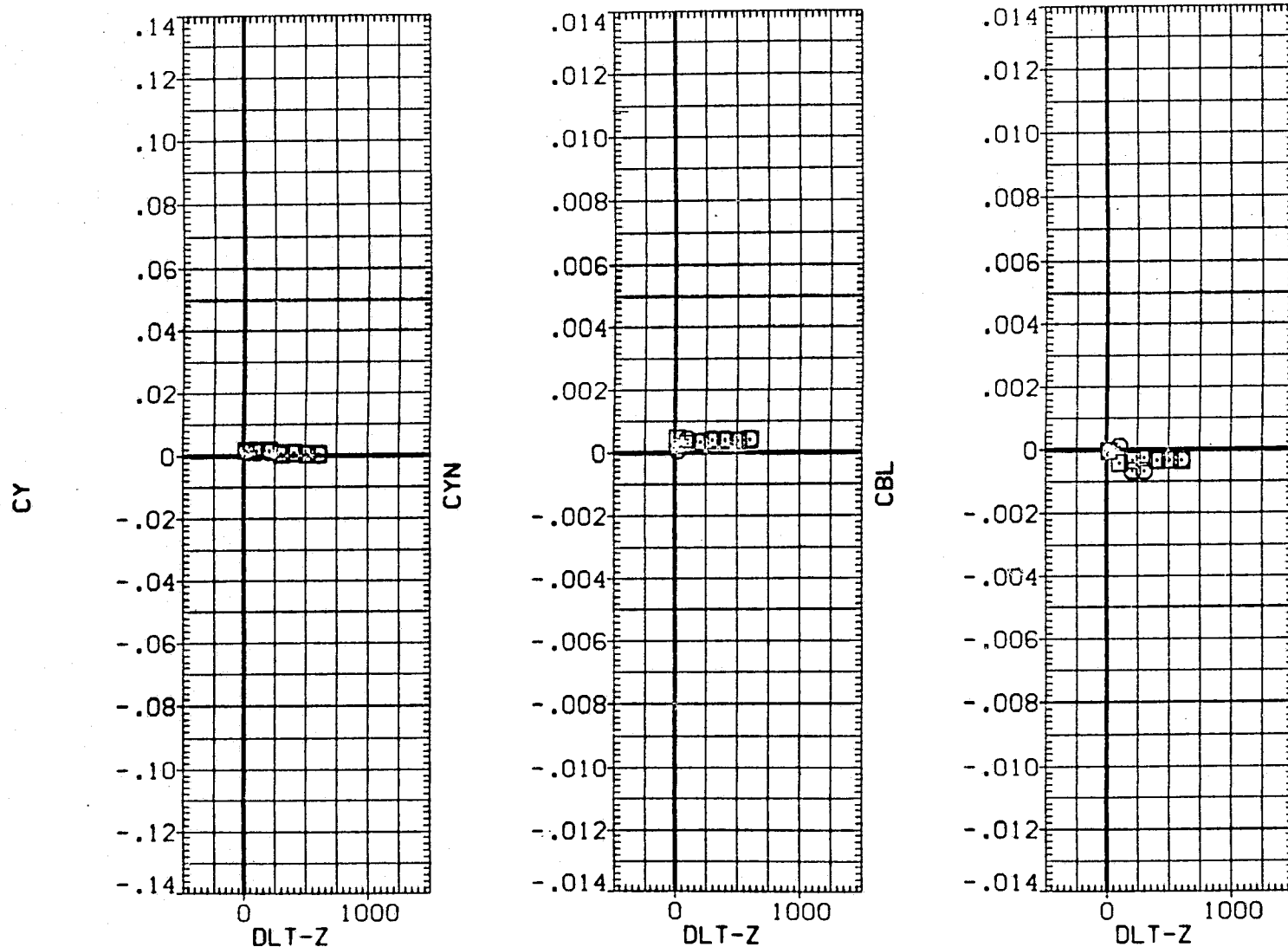


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR101)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.476	BETA	.000	.000
□	400.500	DLTBT	.000	DLTALF -10.000
		ATLRON	.000	MACH 5.930
		GRID	13.000	ELEVON 15.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

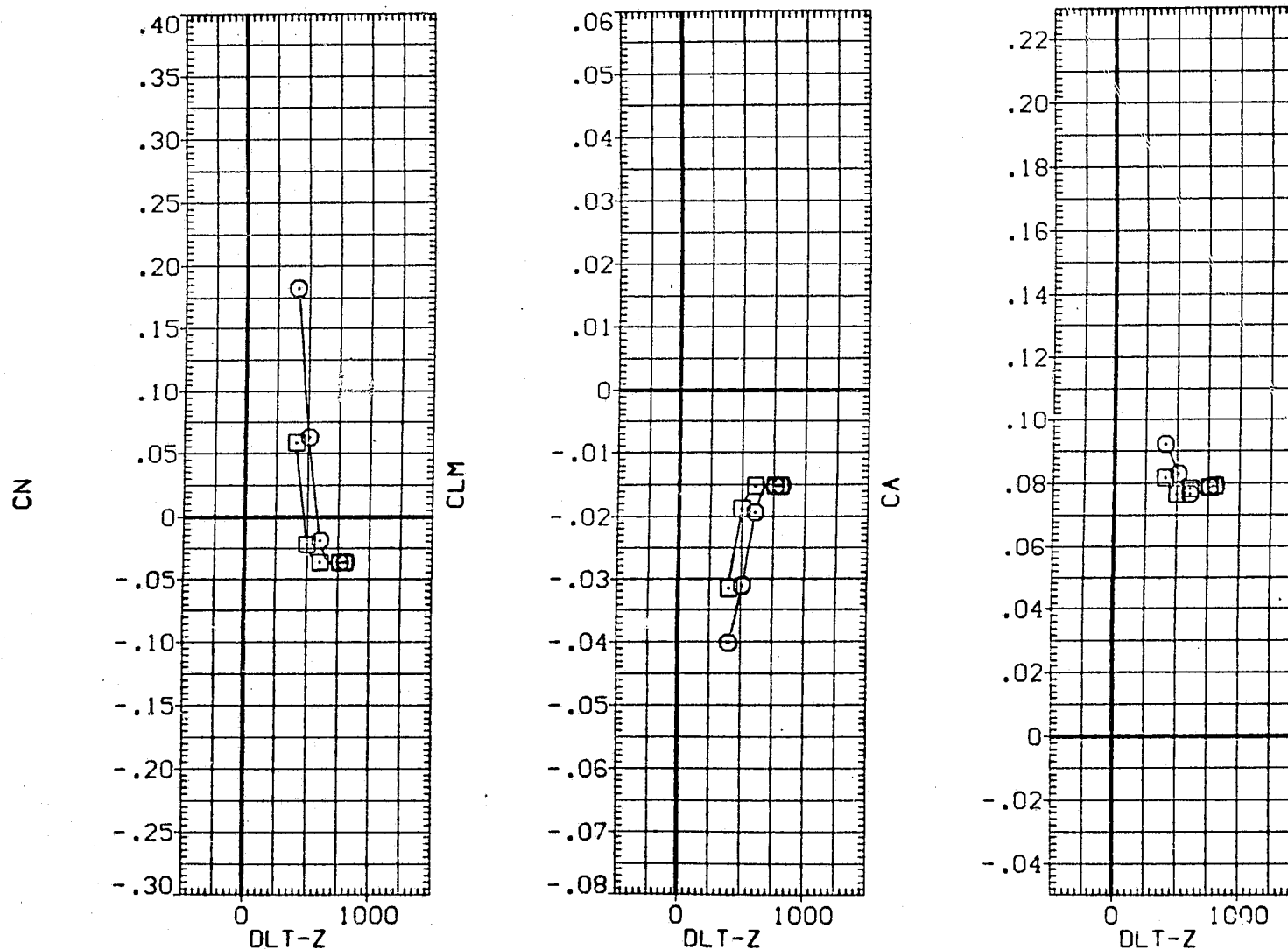


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR101)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.476	.000	BETA	.000
□	400.500	.000	DLTALF	-10.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		.13.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

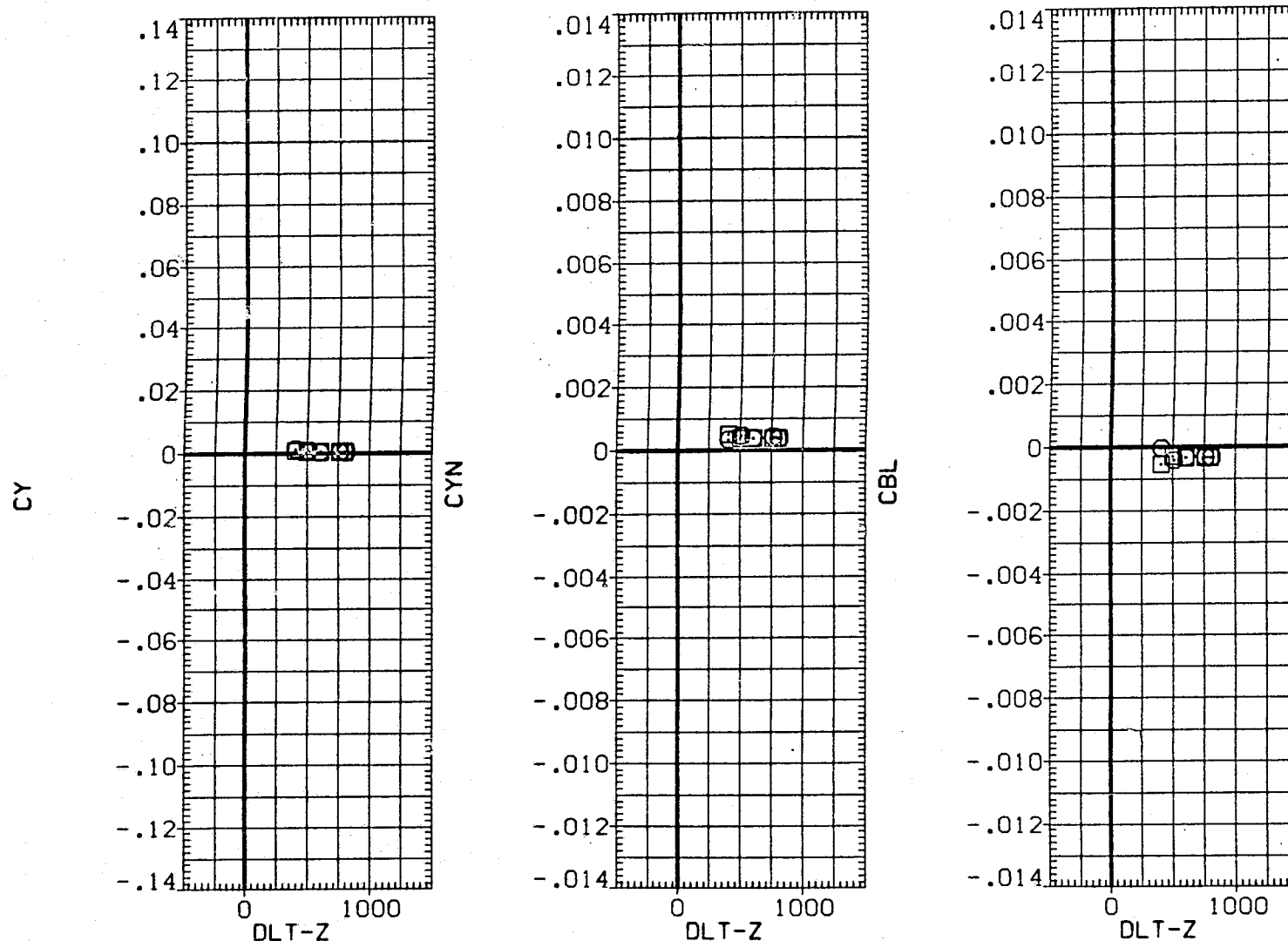


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR103)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.436	.000	ALPHA	.000
□	400.290	.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

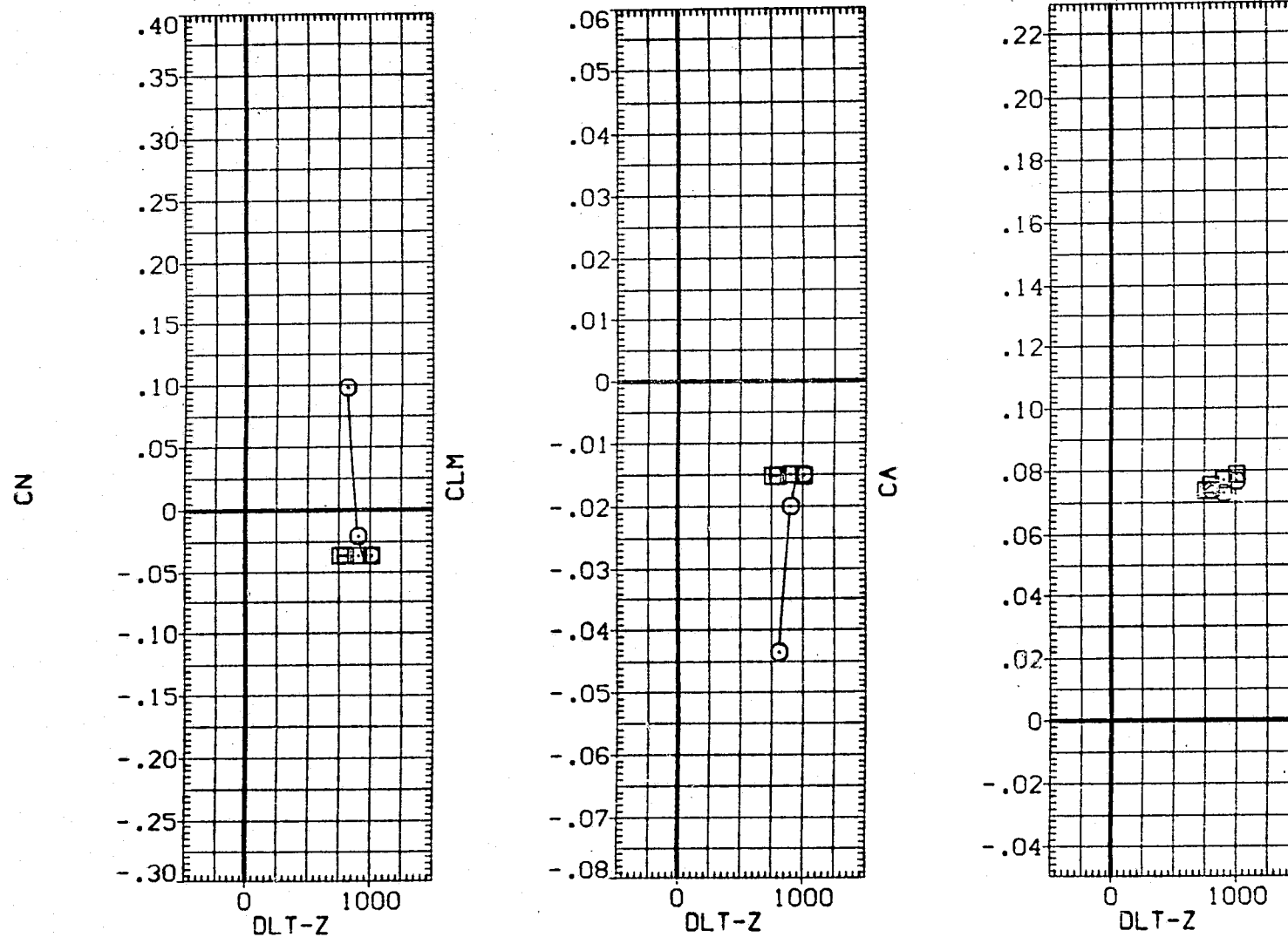


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR103)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	DLT-Y	ALPHA	DLT-X	DLT-Y
○	.436	BETA	.000	ALPHA	.000	BETA
□	400.290	DLTBT	.000	DLTALF	-20.000	DLTBT
		AILRON	.000	MACH	5.930	AILRON
		GRID	13.000	ELEVON	15.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

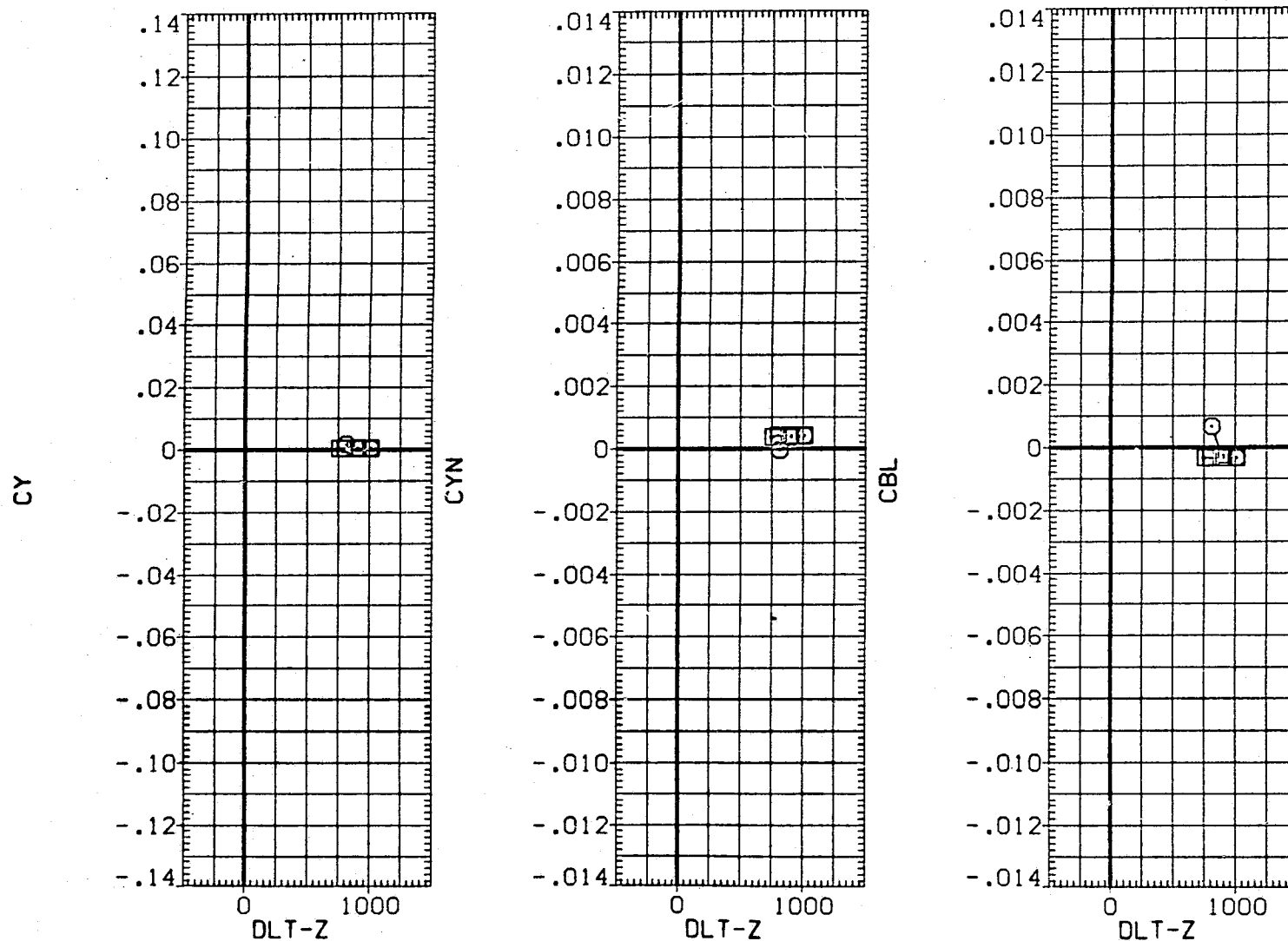


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTP097)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.626	.000	BETA	3.000	.000
		.000	DLTBT	.000	5.930
		.000	AILRON	.000	15.000
		14.000	GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

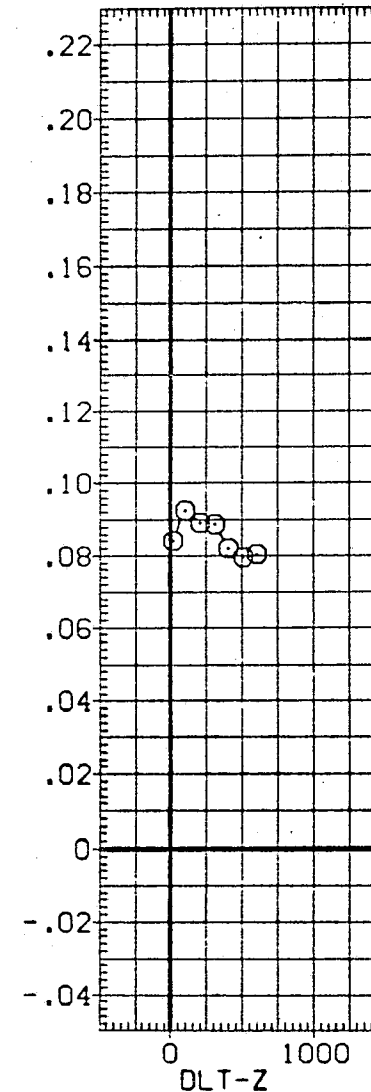
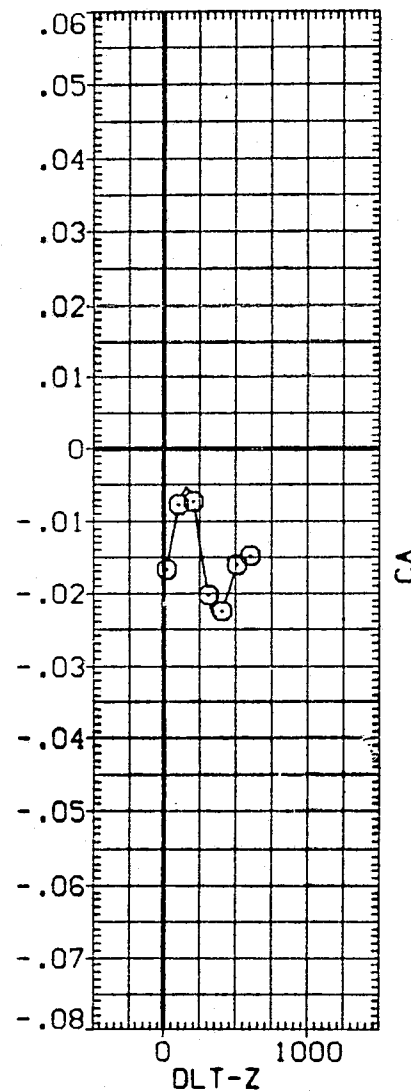
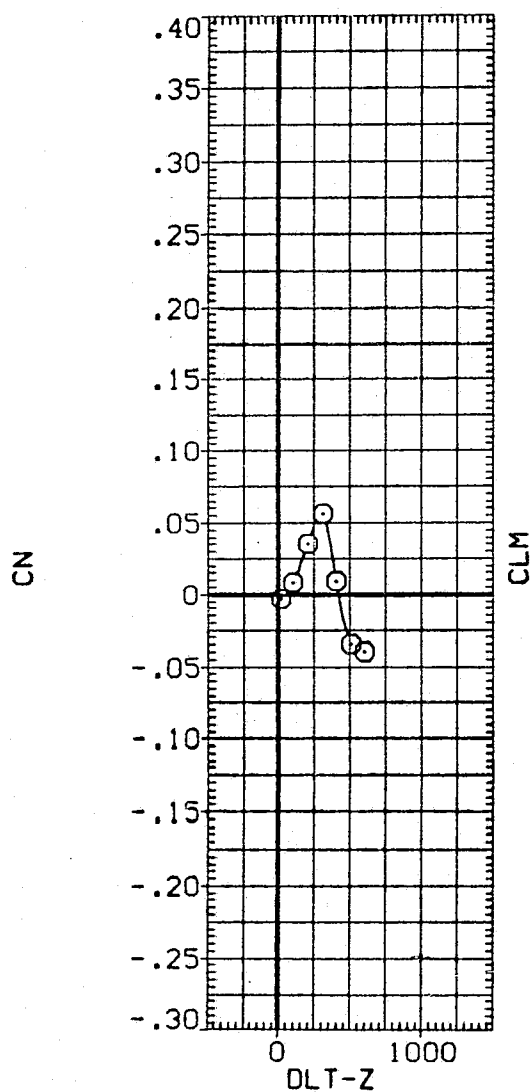


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR097)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.626	DLT-Y	.000	ALPHA	.000
		BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	15.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

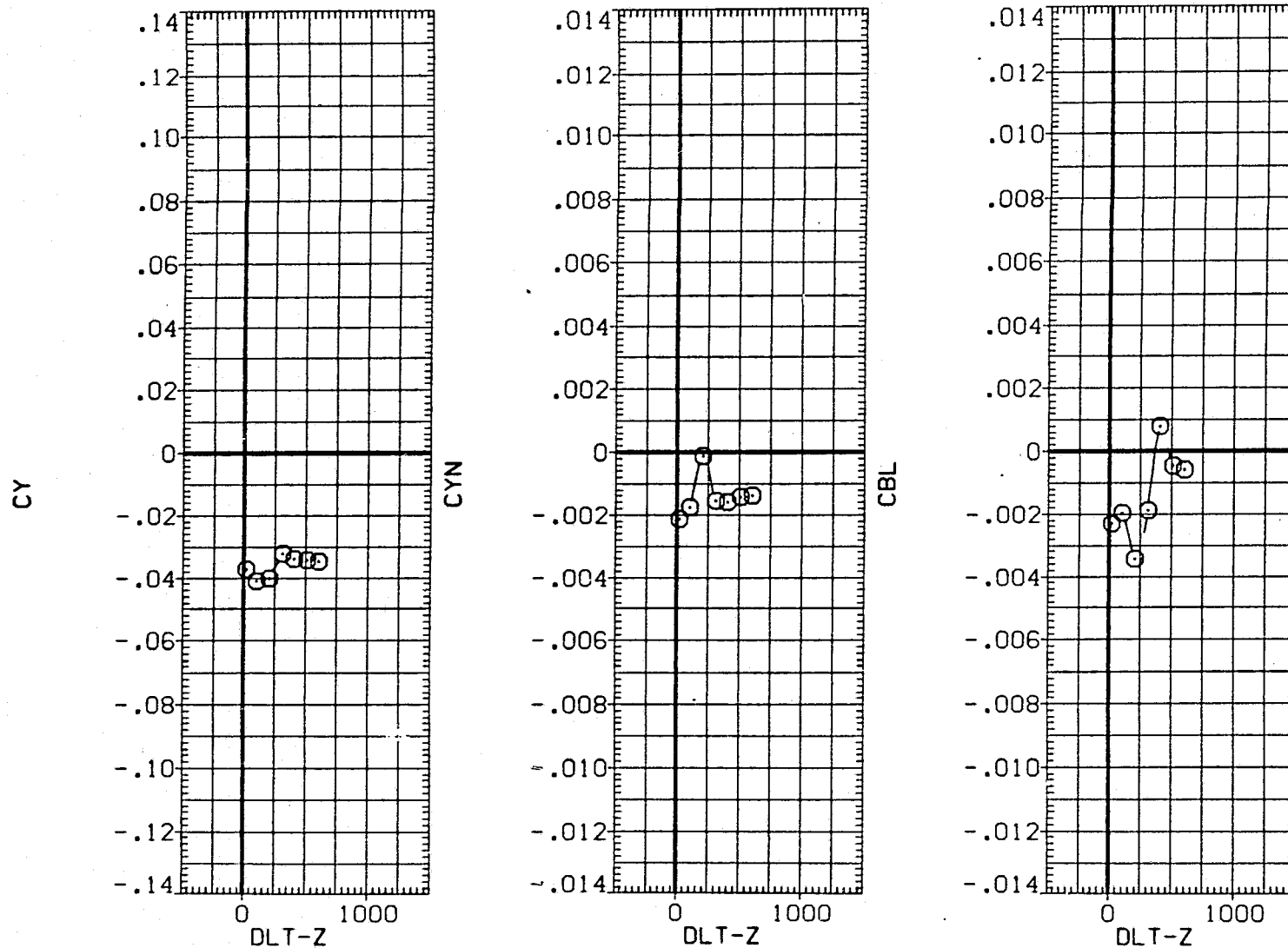


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR098)

SYMBOL	DLT-X	PARAMETRIC VALUES		
O	.515	DLT-Y	.000	ALPHA
		BETA	3.000	DLTALF
		DLTBTA	.000	MACH
		AILRON	.000	ELEVON
		GRID	14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

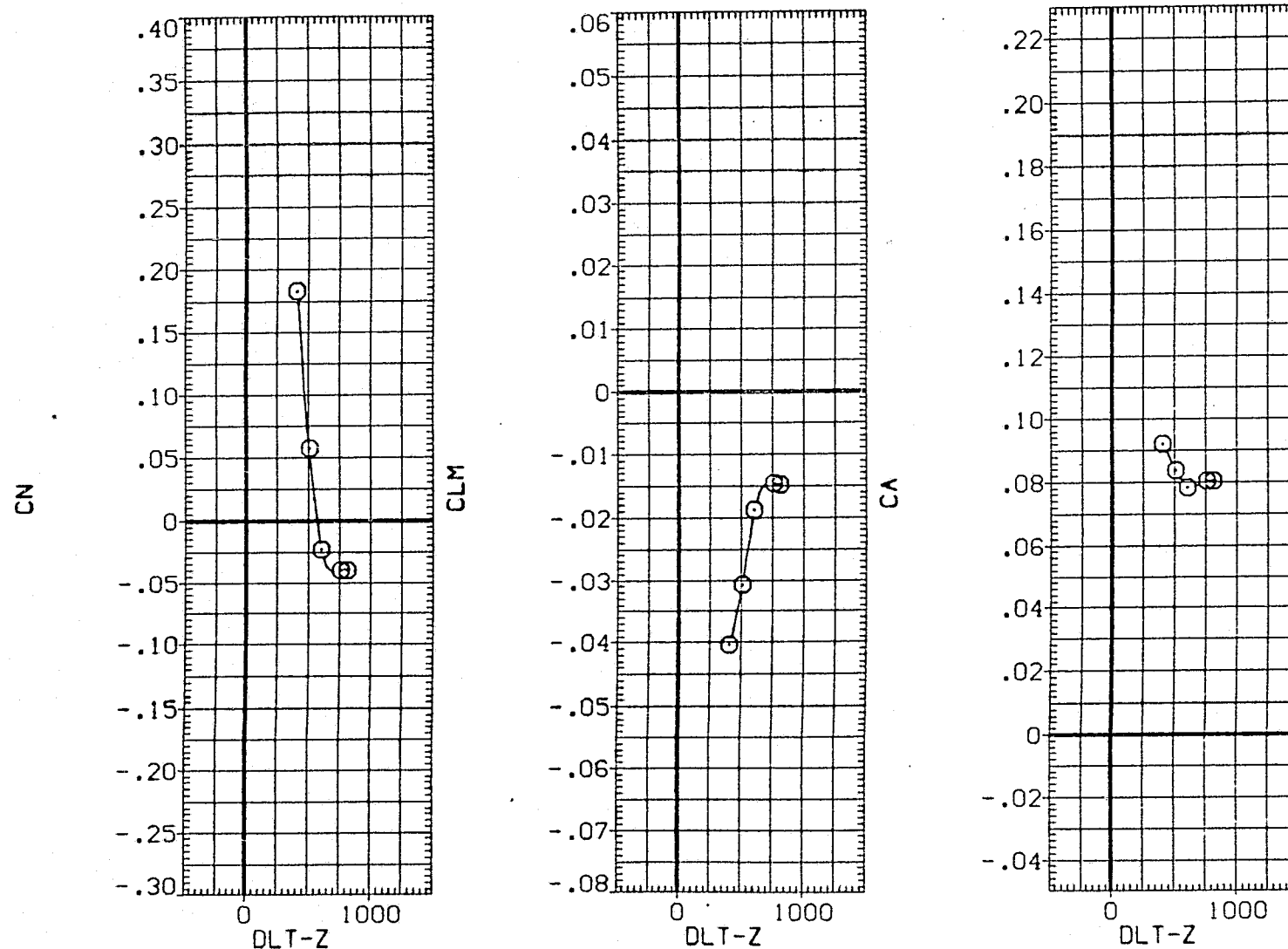


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR098)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBTA	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.515	.000	3.000	.000	.000	14.000		.000	-10.000	5.930	15.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

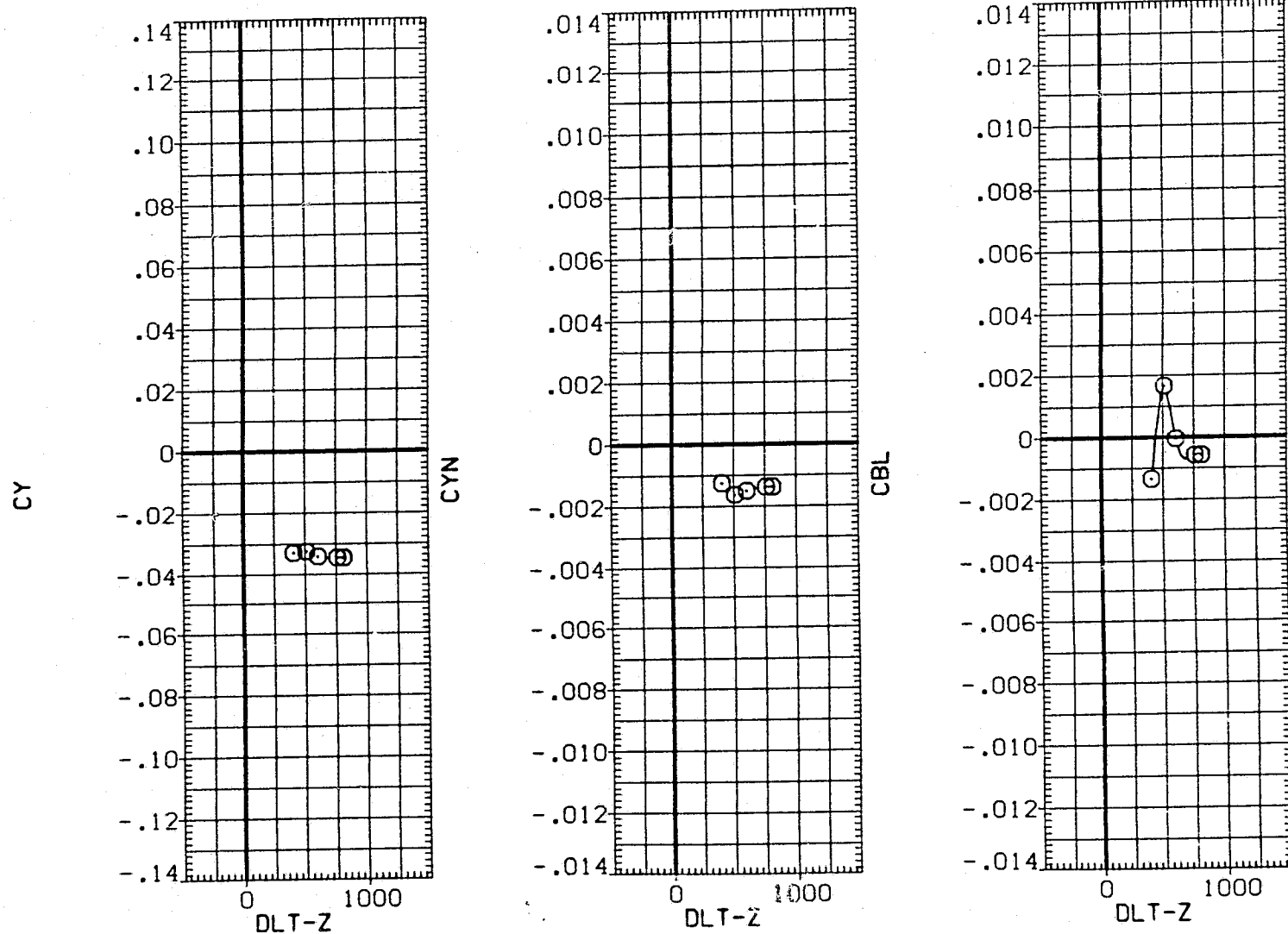


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR099)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.529	DLT-Y	.000	ALPHA	.000
		BETA	3.000	DLTALF	-20.000
		DLTSTA	.000	MACH	5.930
		AILRON	.000	ELEVON	15.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

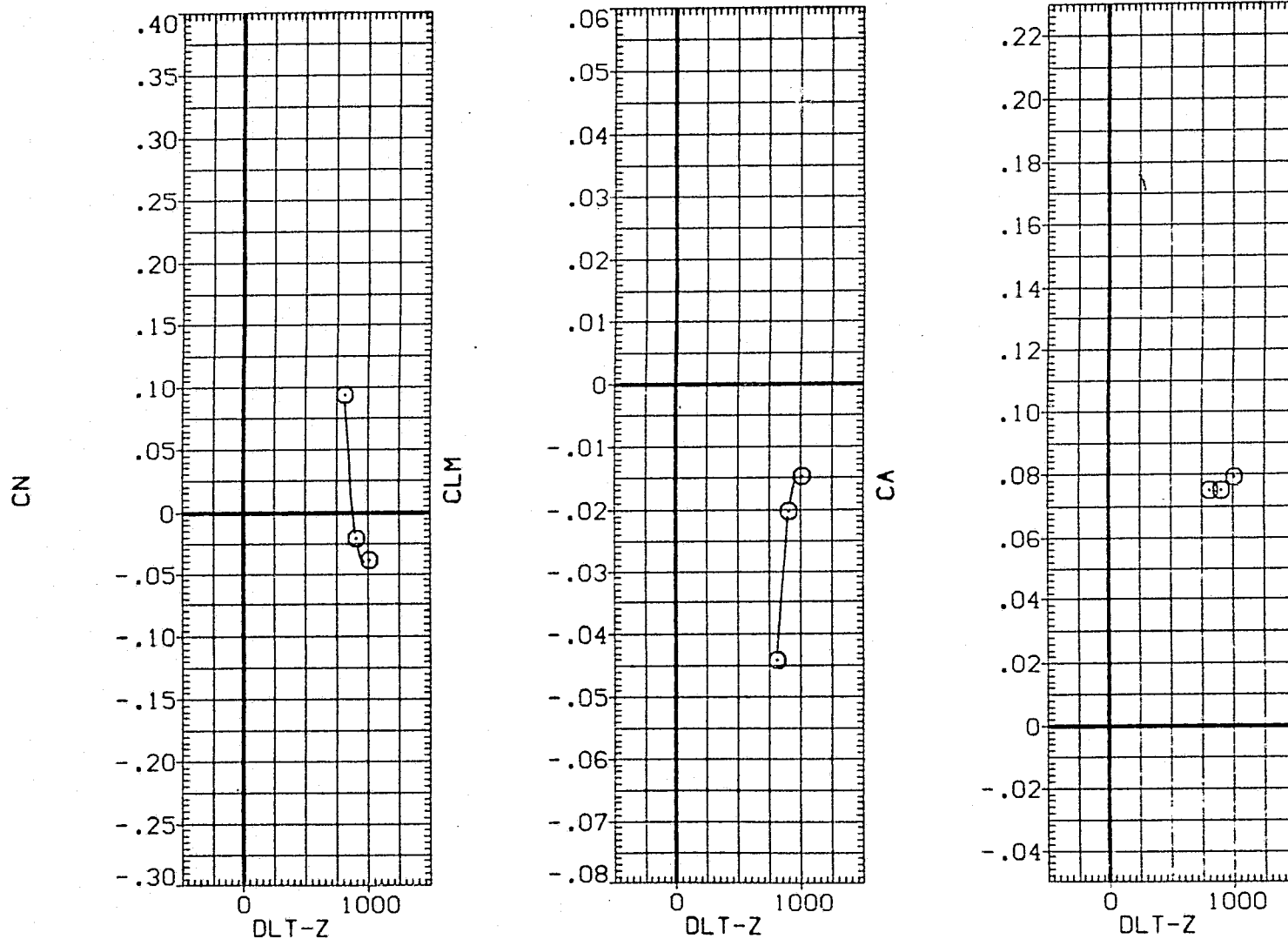


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR099)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
O	.529	BETA	.000	ALPHA
		BETA	3.000	DLTALF
		DLTBTA	.000	MACH
		AILRON	.000	ELEVON
		GRID	14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

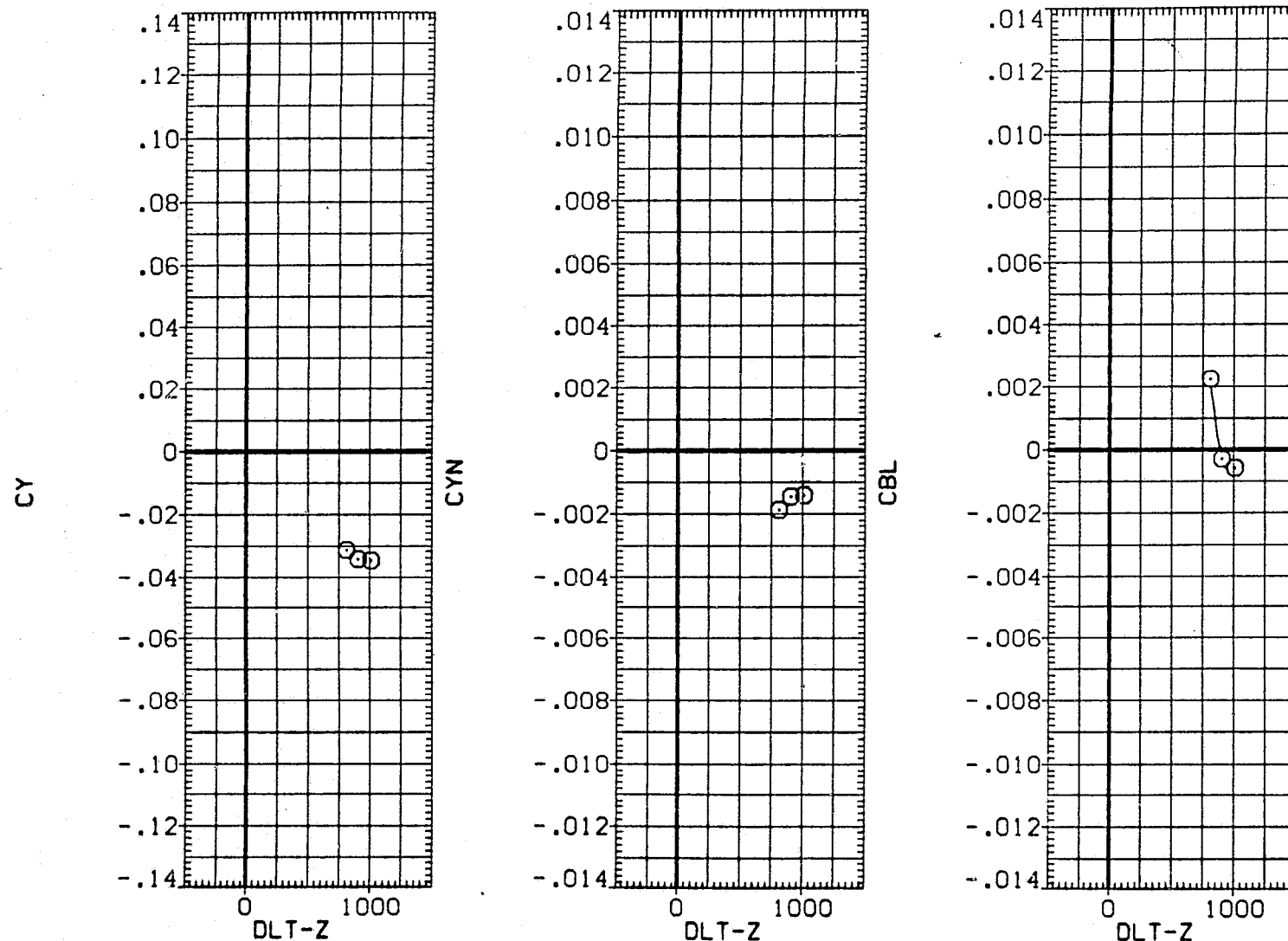


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR104)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.579	BETA	.000	ALPHA
□	400.580	DLTBT	.000	DLTALF
		AILRON	.000	MACH
		GRID	12.000	ELEVON
				15.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

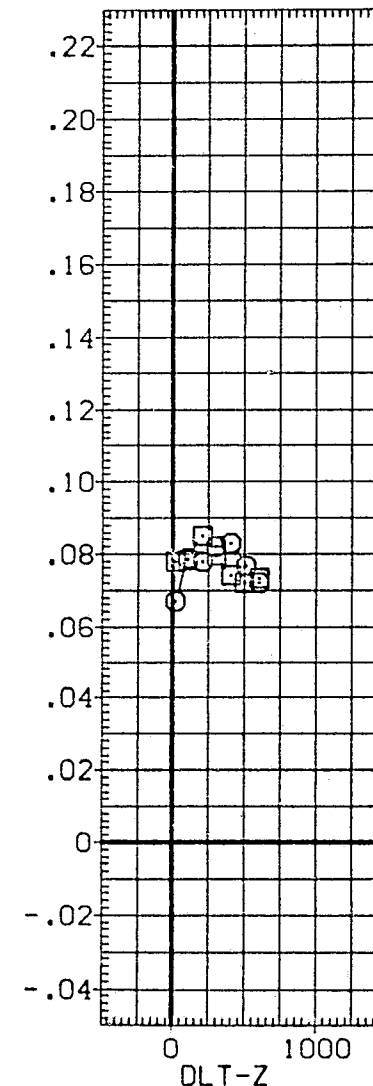
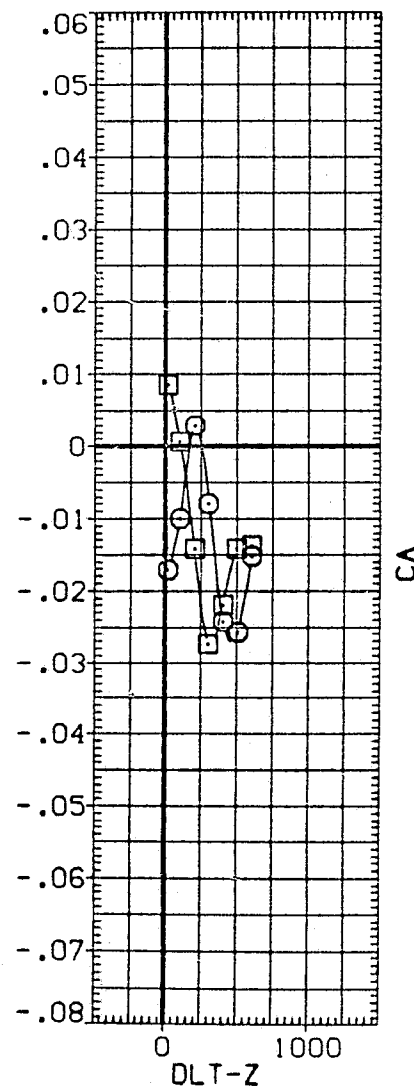
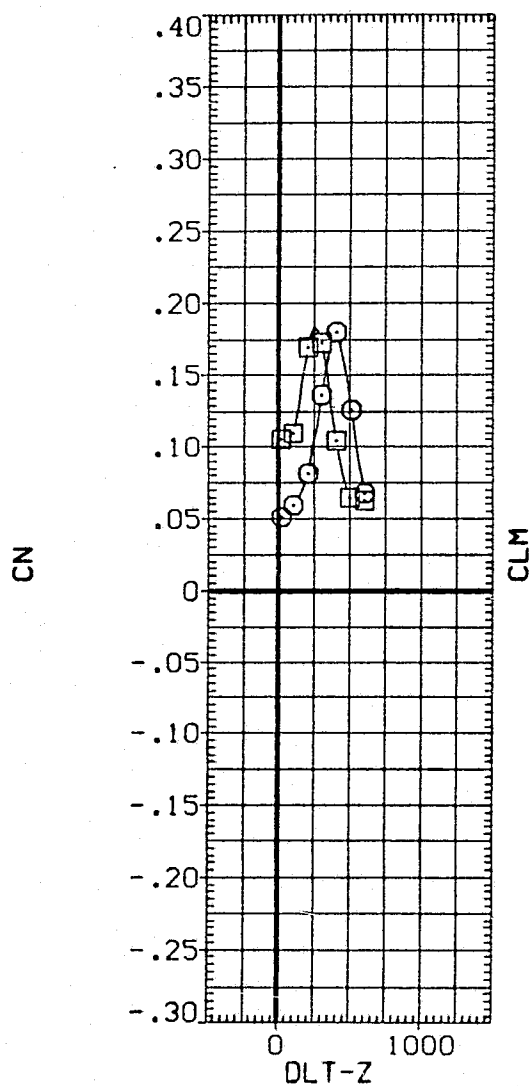


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR104)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.579	.000	BETA	.000
□	400.580	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		12.000	GRID	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRF	1089.6000 IN. XO
YMRF	.0000 IN. YO
ZMRF	375.0000 IN. ZO
SCALE	.0100

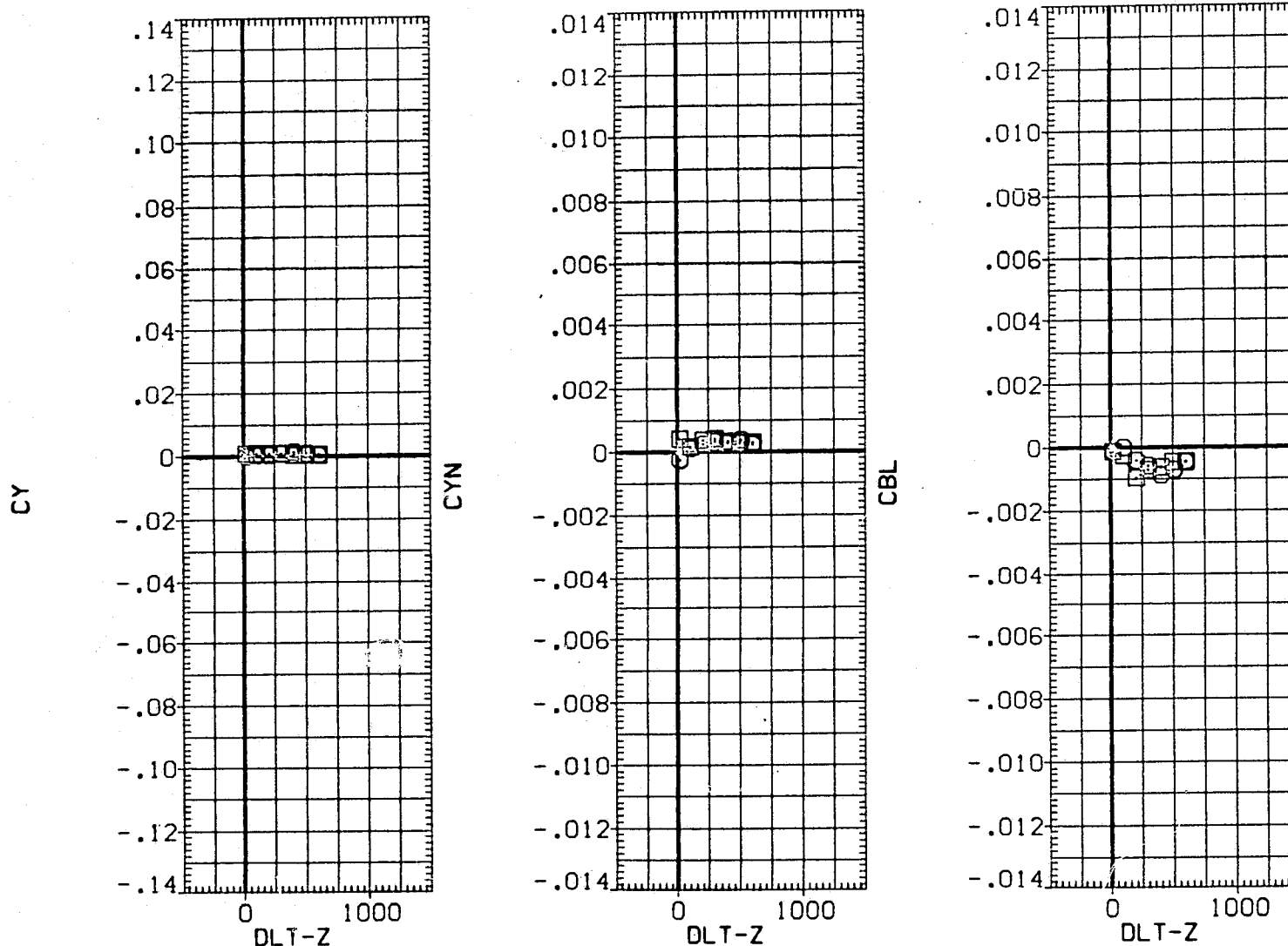


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR105)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.447	.000	ALPHA 5.000
□	400.420	BETA .000	DLTALF -10.000
		DLTBT A .000	MACH 5.930
		ATLRON .000	ELEVON 15.000
		GRID 12.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. Z0
SCALE	.0100	

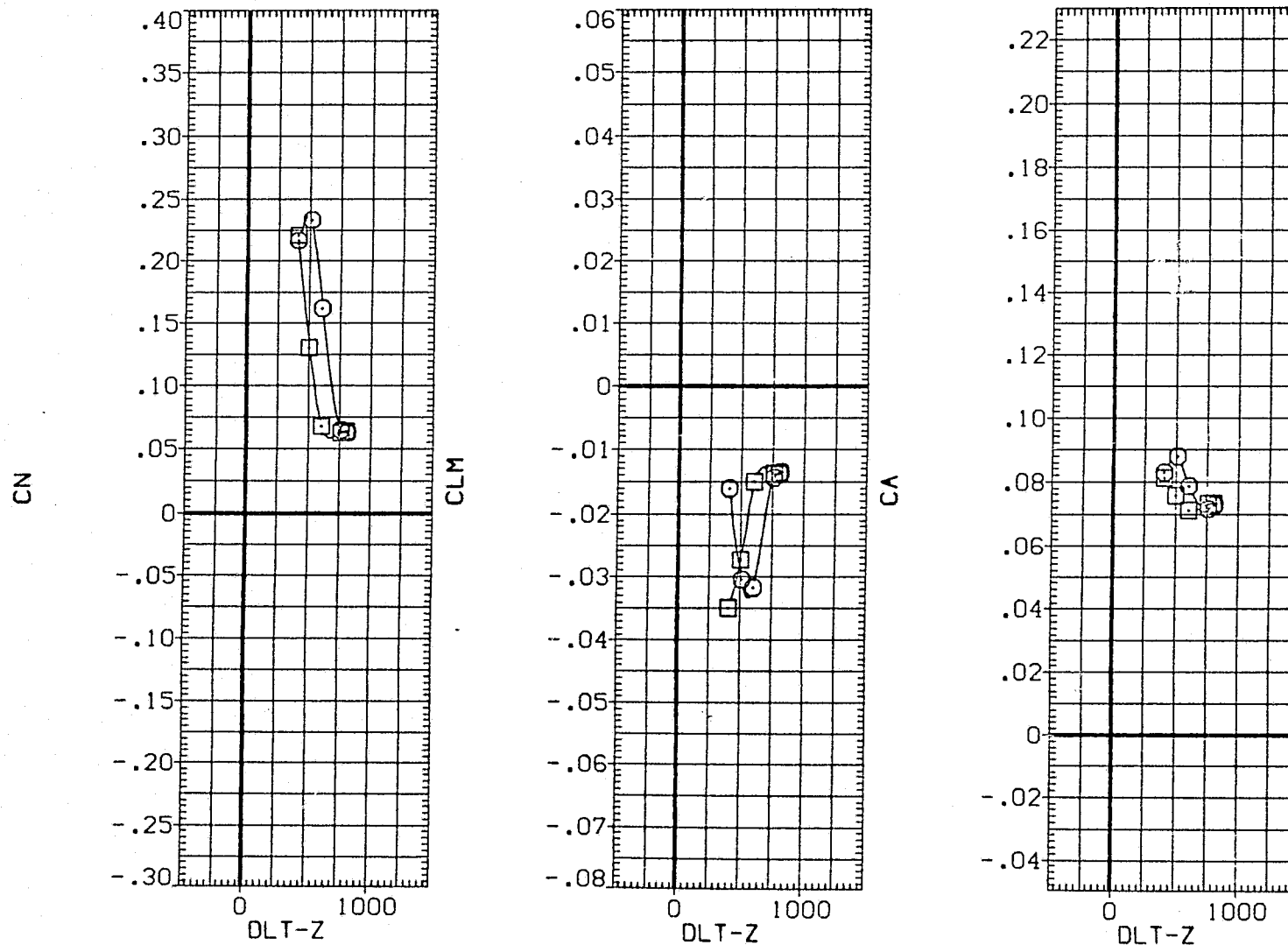


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR105)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.447	.000	ALPHA	5.000
□	400.420	.000	DLTALF	-10.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		12.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

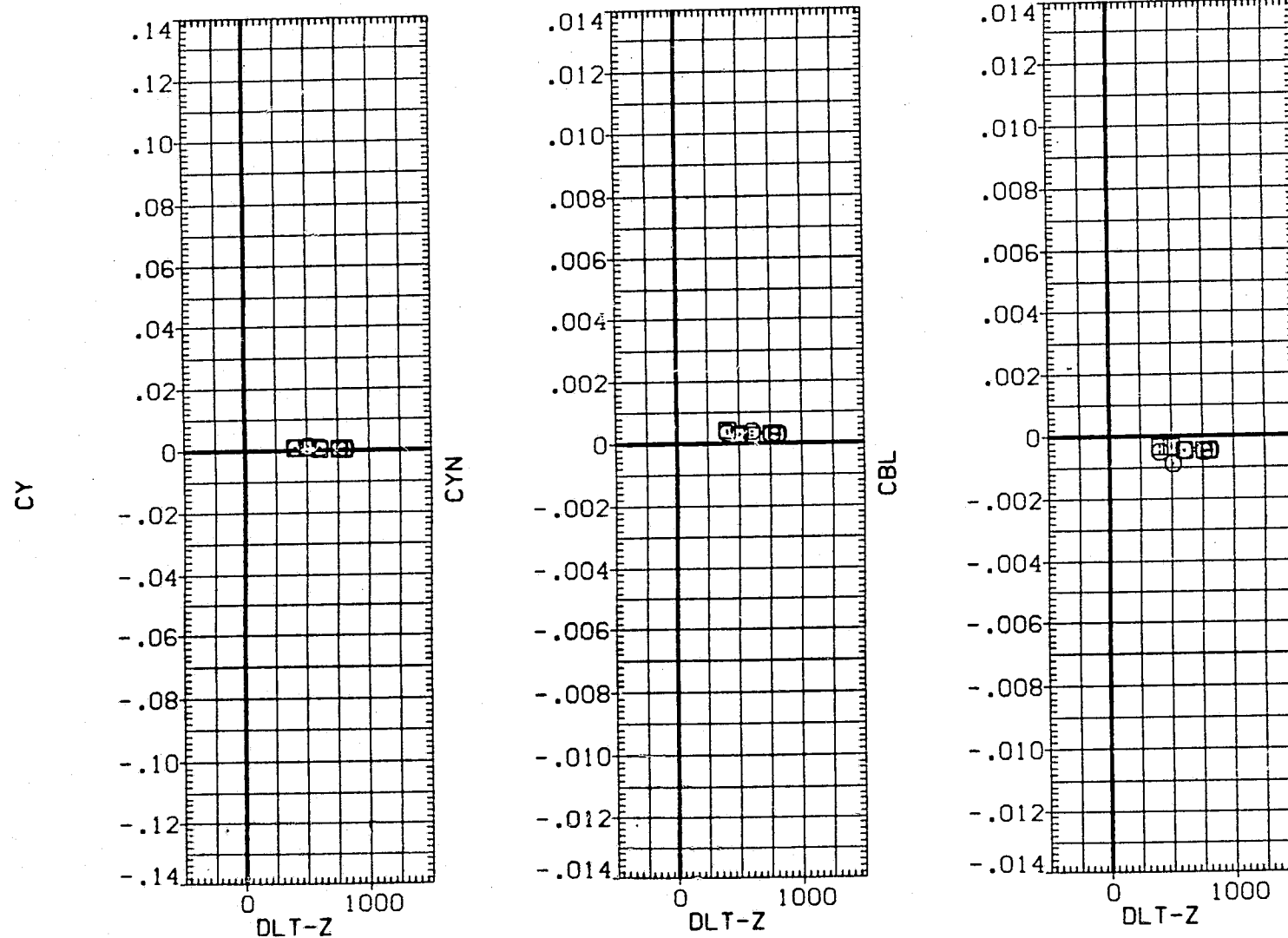


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR107)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.389	.000	ALPHA	5.000
□	400.410	.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		.000	GRID	12.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

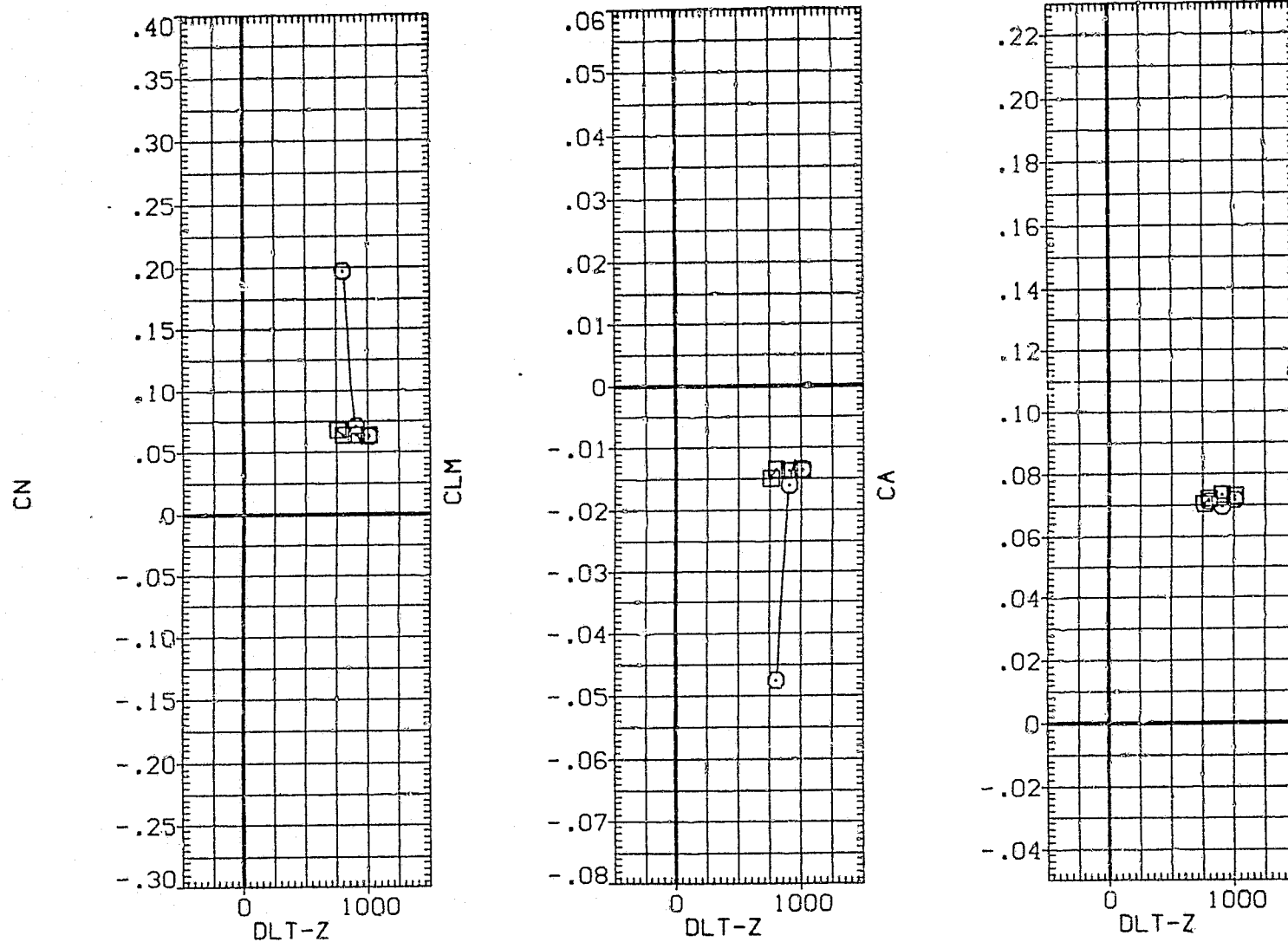


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR107)

SYMBOL \square \square DLT-X .389 400.410

PARAMETRIC VALUES			
DLT-Y	.000	ALPHA	5.000
BETA	.000	DLTALF	-20.000
DLTBTA	.000	MACH	5.930
AILRON	.000	ELEVON	15.000
GRID	12.000		

REFERENCE INFORMATION

SREF	2690.0000	SO, FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Y0
SCALE	.0100	

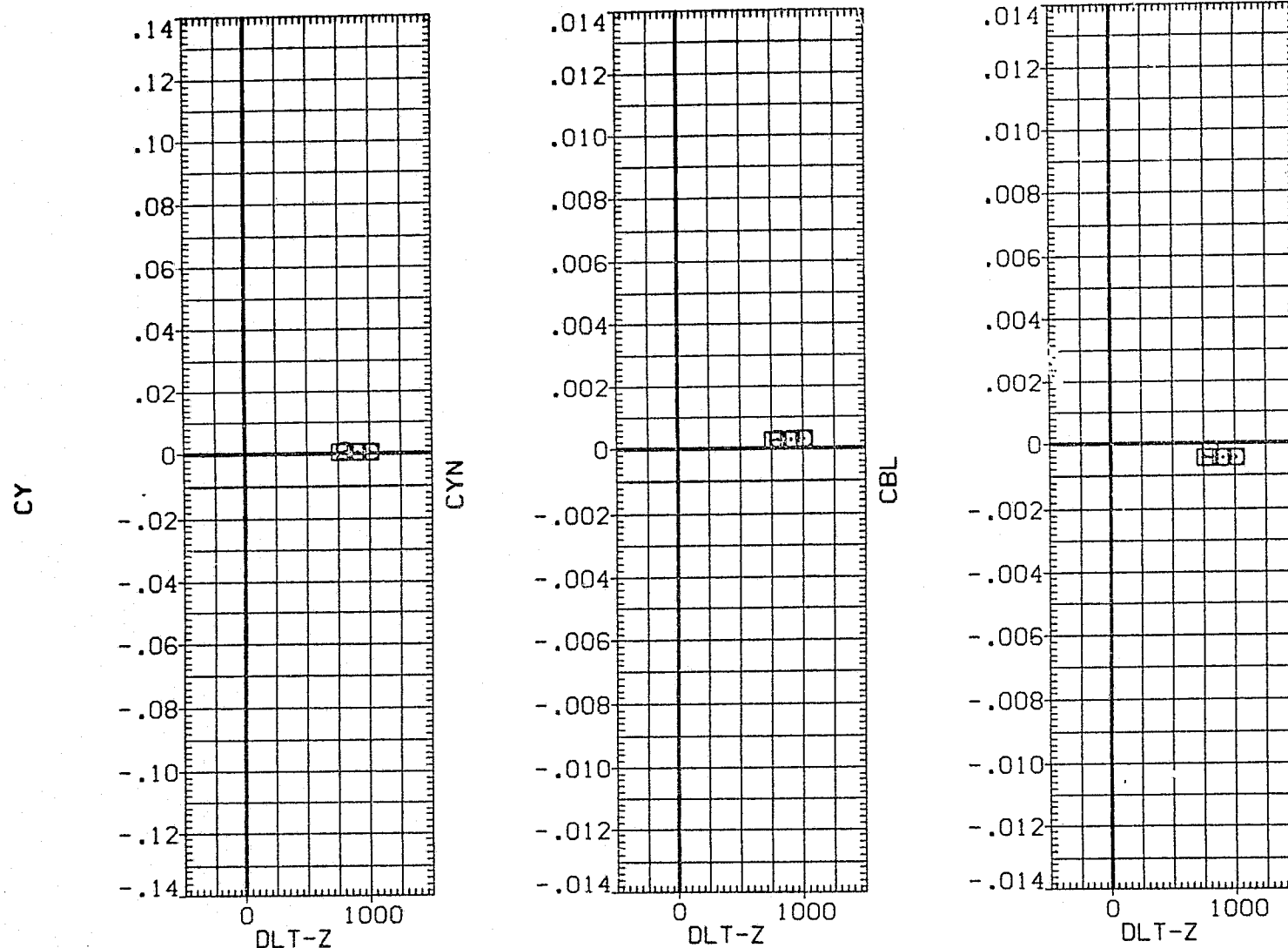


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= 15)

AEDC VA422(1A17) 3RB AND ET SEPARATING(ORB DATA)(RTR108)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.398		.000	.000	5.930	15.000
□	400.490		.000	.000		
		DLTBT	.000			
		AILRON	.000			
		GRID	11.000			

REFERENCE INFORMATION		
SREF	2890.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

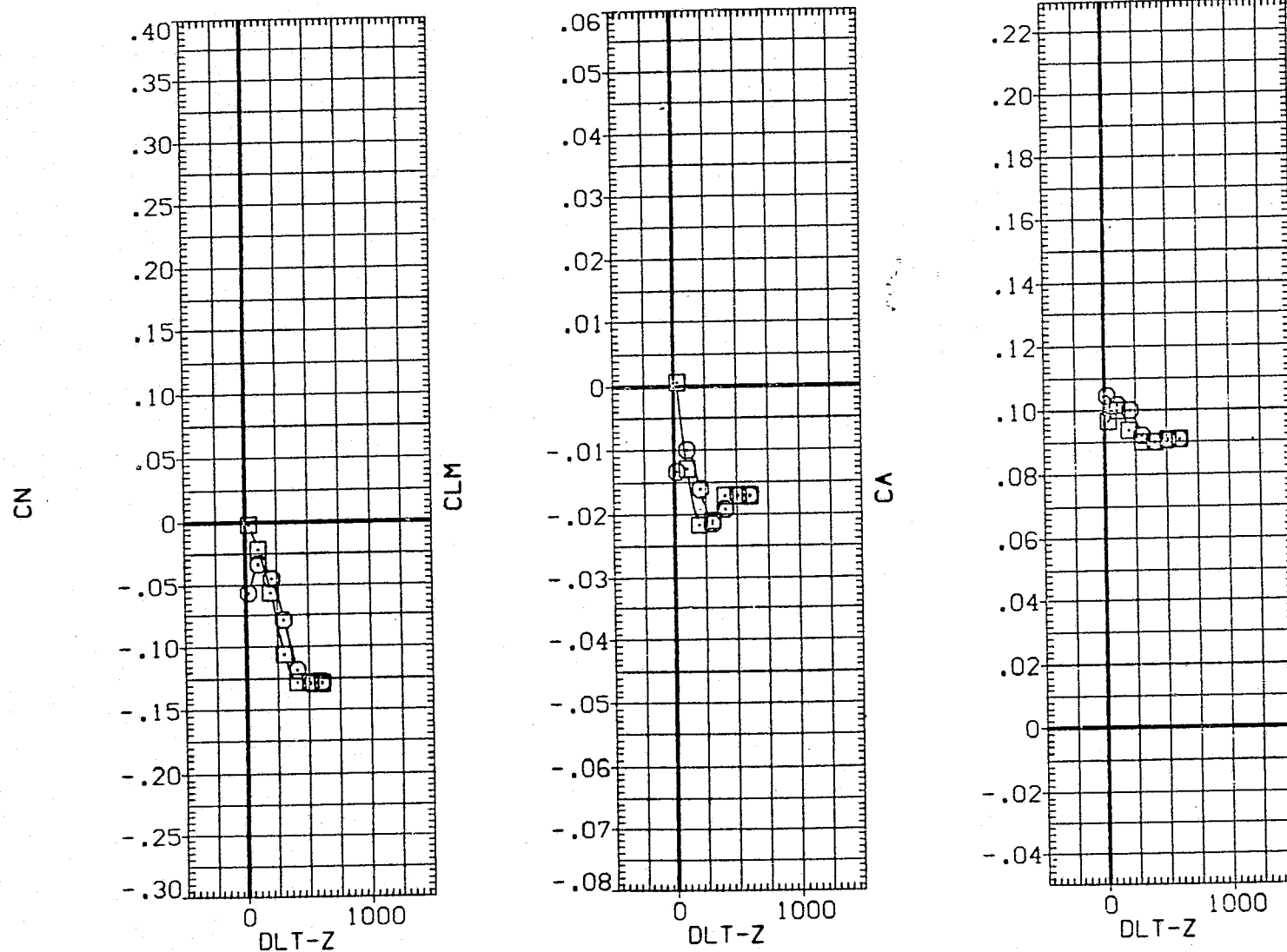


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR108)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.398	DLT-Y	.000	ALPHA	-5.000
□	400.490	BETA	.000	DLTALF	.000
		DLTBT	.000	MACH	5.930
		AILRON	.000	ELEVON	15.000
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

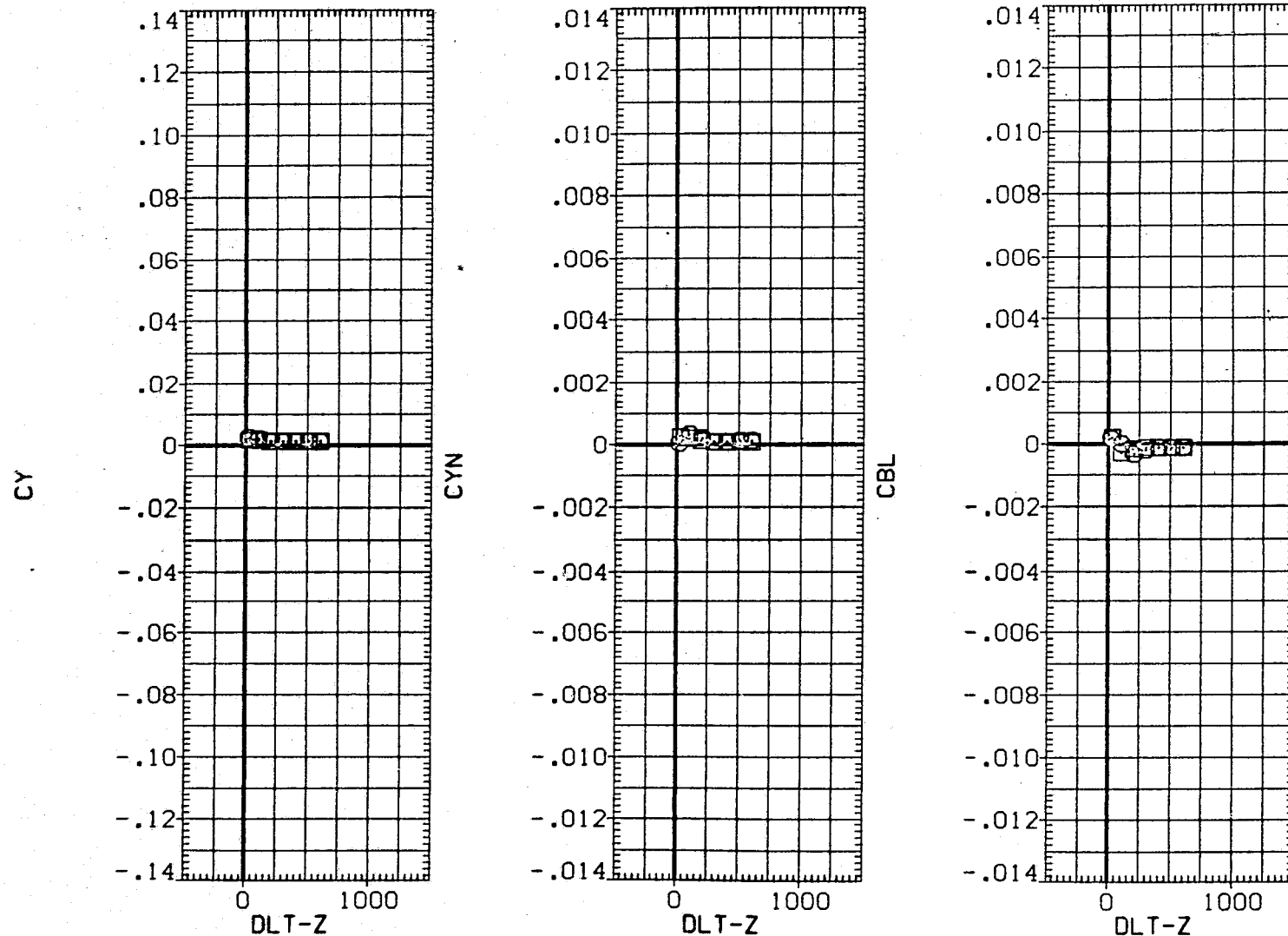


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR109)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	.000	ALPHA	-5.000
○	.414	BETA	.000	DLTALF	-10.000
□	400.490	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	15.000
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

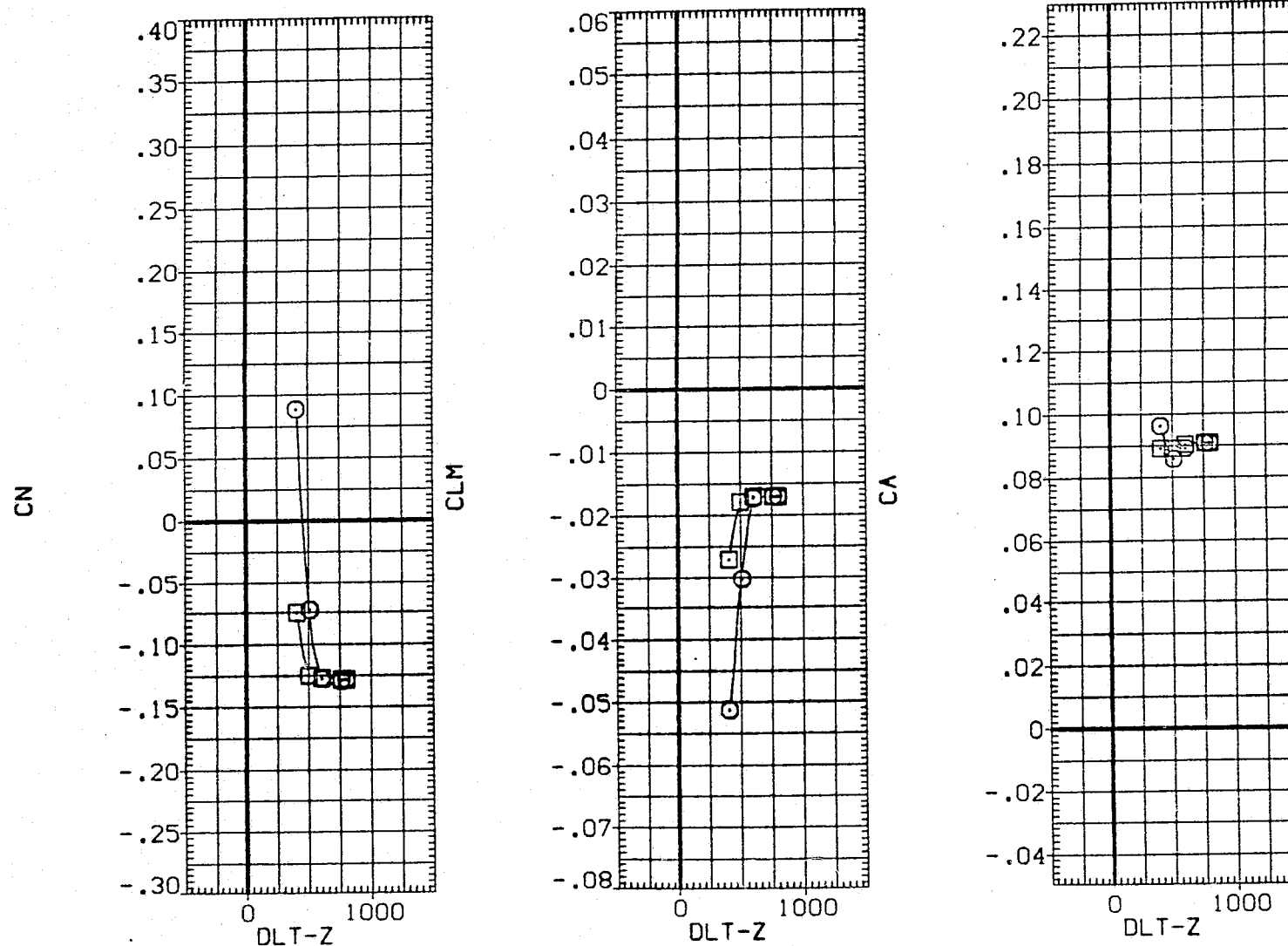


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR109)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	-5.000
○	.414	.000	DLTALF	-10.000	
□	400.490	.000	MACH	5.930	
		.000	ELEVON	15.000	
		.000			
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

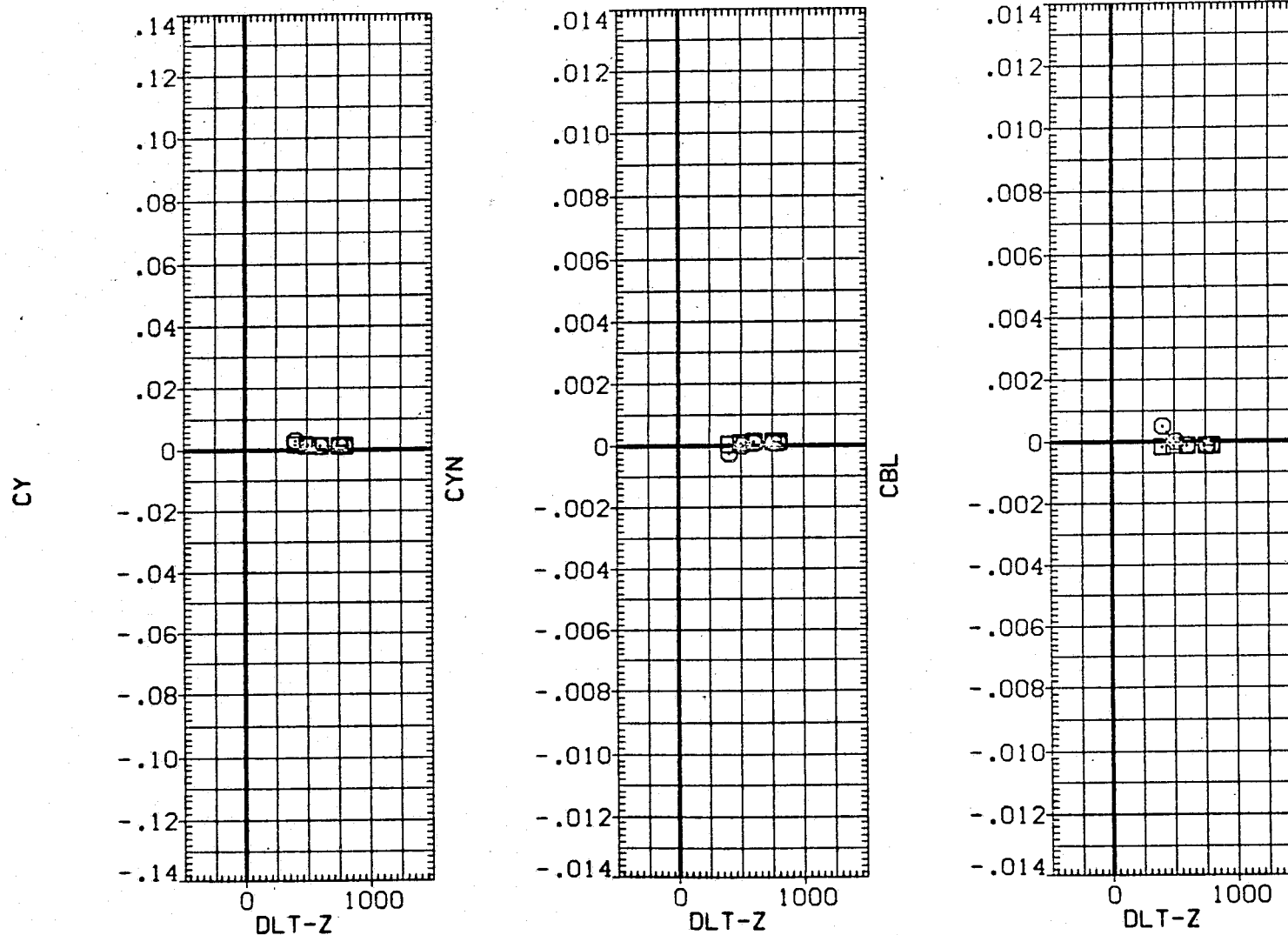


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR111)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.375	.000	ALPHA	-5.000
□	400.440	.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		.000	GRID	11.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

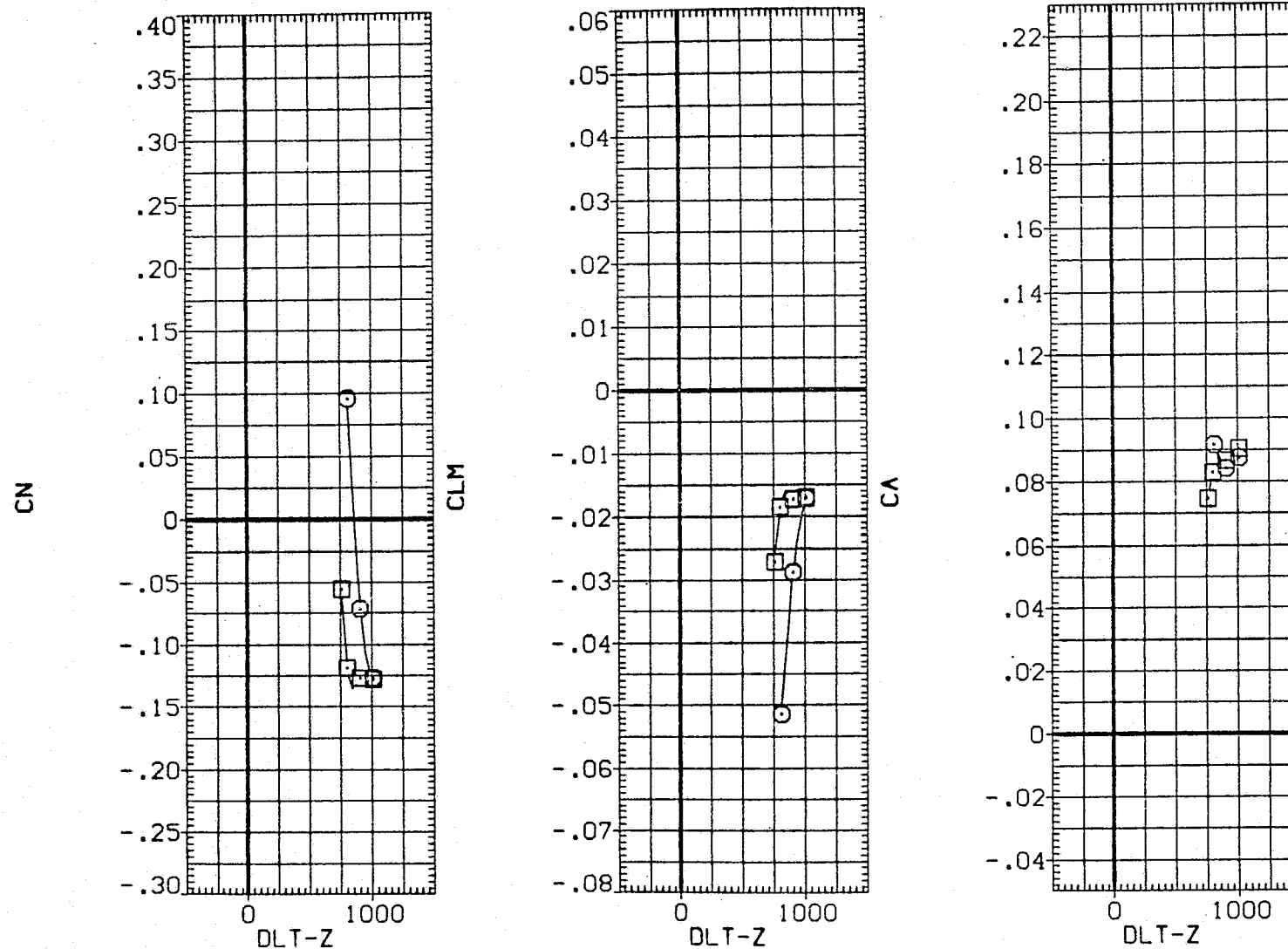


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR111)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.375	.000	DLTALF	-5.000
□	400.440	.000	MACH	5.930
		.000	ELEVON	15.000
		.000		
		GRID	11.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

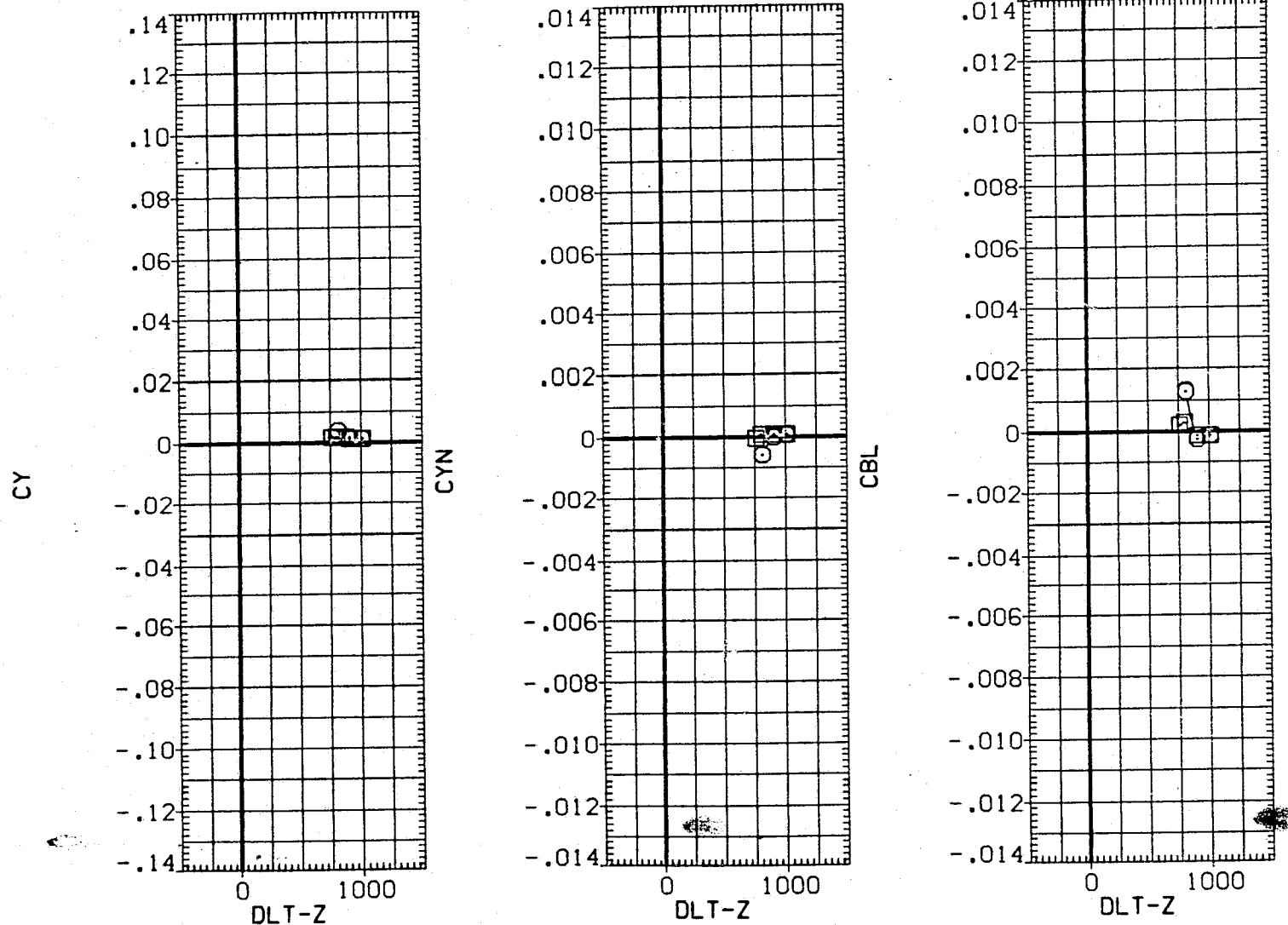


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR112)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	-10.000
○	.454	BETA	.000	DLTALF	.000
□	400.480	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	15.000
		GRID	10.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. XO
YMRP	.0000 IN. YO
ZMRP	375.0000 IN. ZO
SCALE	.0100

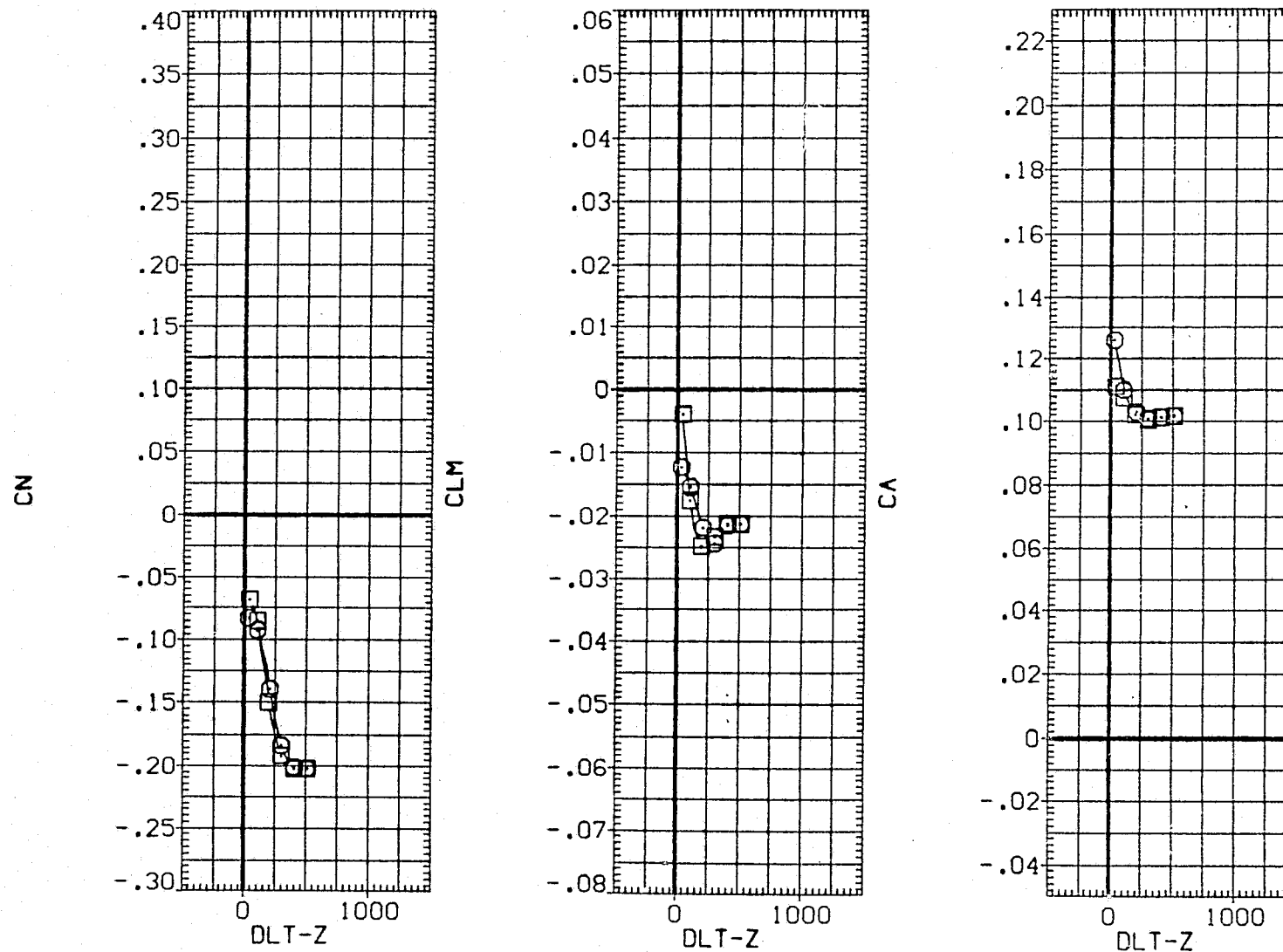


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTP112)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	DLT-Z	ALPHA	DLTALF	ELEVON
○	.454	.000	.000	-10.000	.000	5.930
□	400.480	.000	.000	.000	.000	15.000
		DLTBT	DLTBT			
		AILRON	AILRON			
		GRID	GRID			
			10.000			

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

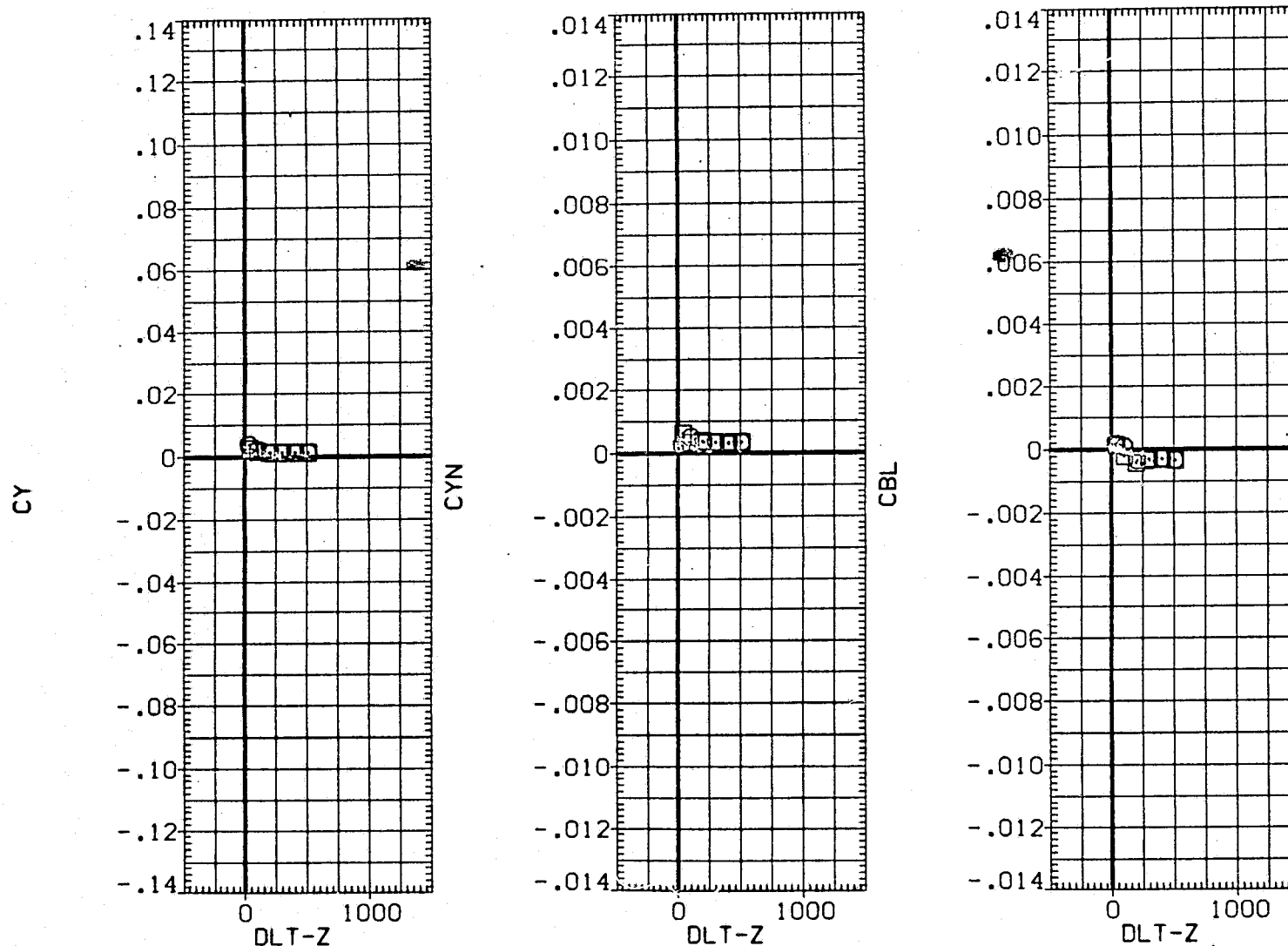


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR113)

SYMBOL		DLT-X		PARAMETRIC VALUES	
<input type="radio"/>			.413	.000	ALPHA -10.000
<input type="checkbox"/>			400.400	.000	DLTALF -10.000
		DLT-Y		.000	MACH 5.930
		BETA		.000	ELEVON 15.000
		DLTBT		.000	
		AIRLON		.000	
		GRID		10.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

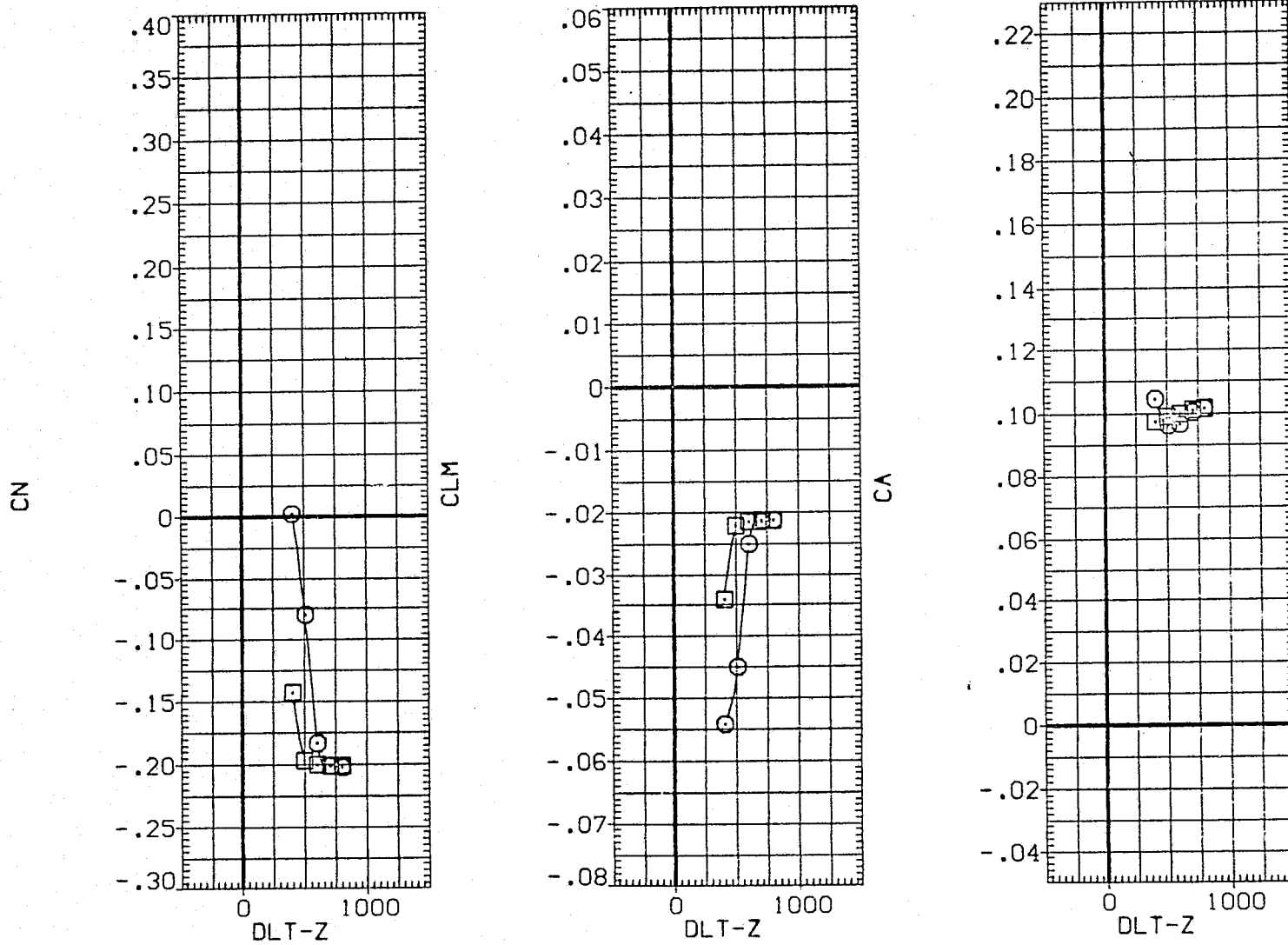


FIGURE 5 ORBITER AERO CHARACTERISTICS ($\Delta Y = 0$, $MACH = 5.93$, $ELEVON = 15$)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR113)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.413	.000	ALPHA	-10.000
□	400.400	.000	DLTALF	-10.000
		.000	MACH	5.930
		.000	ELEVON	15.000
		10.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

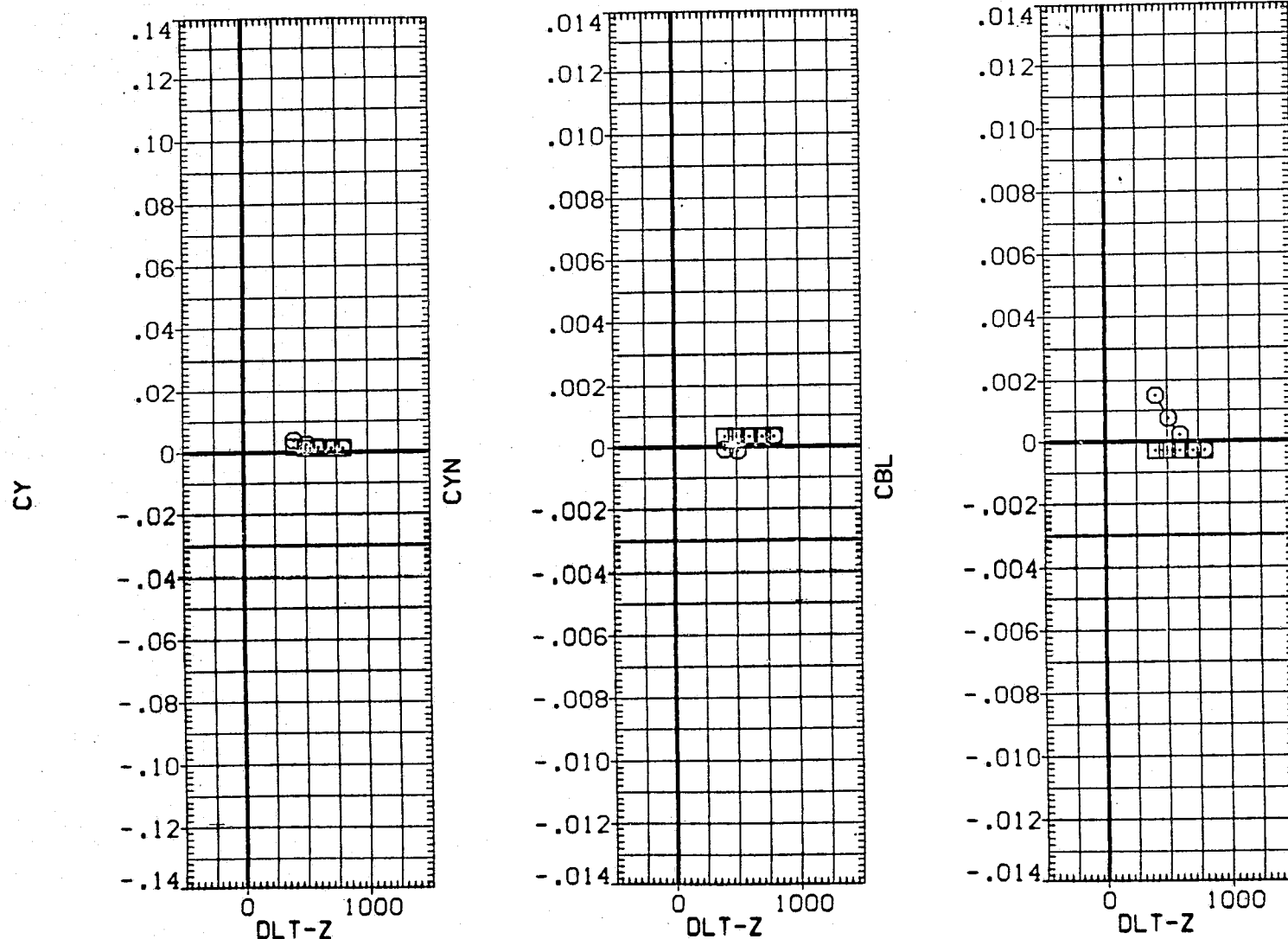


FIGURE 5 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR056)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	BETA	ALPHA	DLTALF	ELEVON
○	.558	.000	.000	.000	.000	.000
□	400.530	.000	.000	.000	.000	.000
		DLTBT	.000	MACH	5.930	
		AILRON	.000	ELEVON	-20.000	
		GRID	13.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	375.0000	IN. Y0
SCALE	.0100	IN. Z0

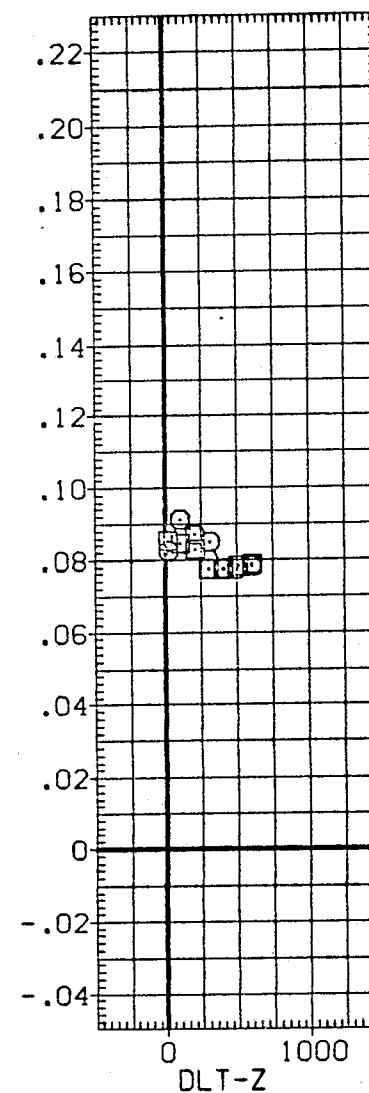
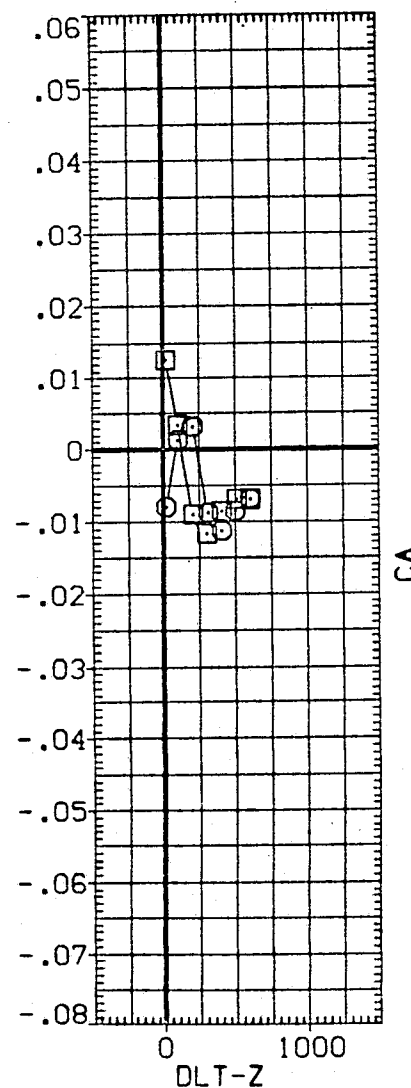
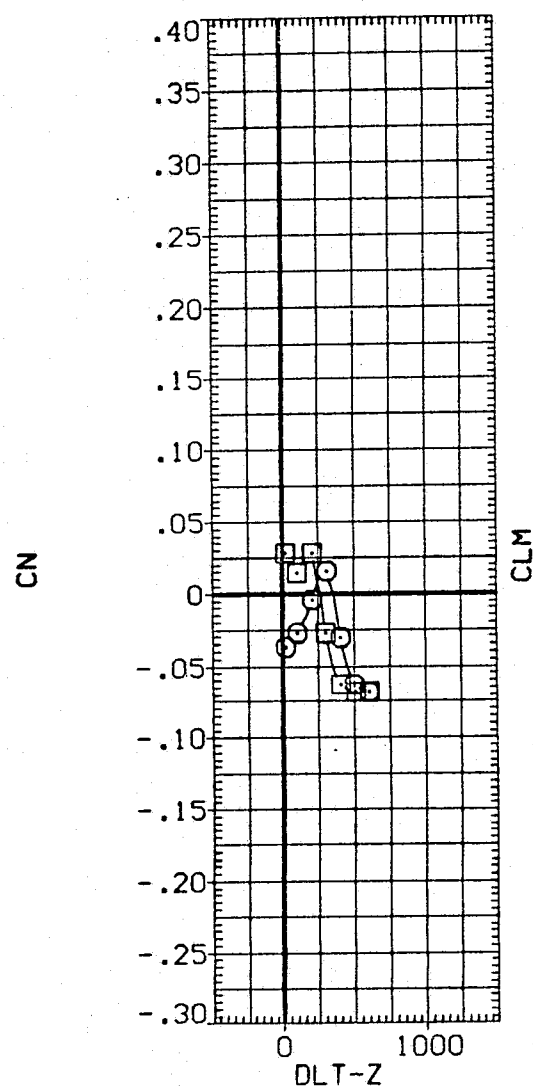


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR056)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.558	DLT-Y	.000	ALPHA	.000
□	400.530	BETA	.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	-20.000
		GRID	13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

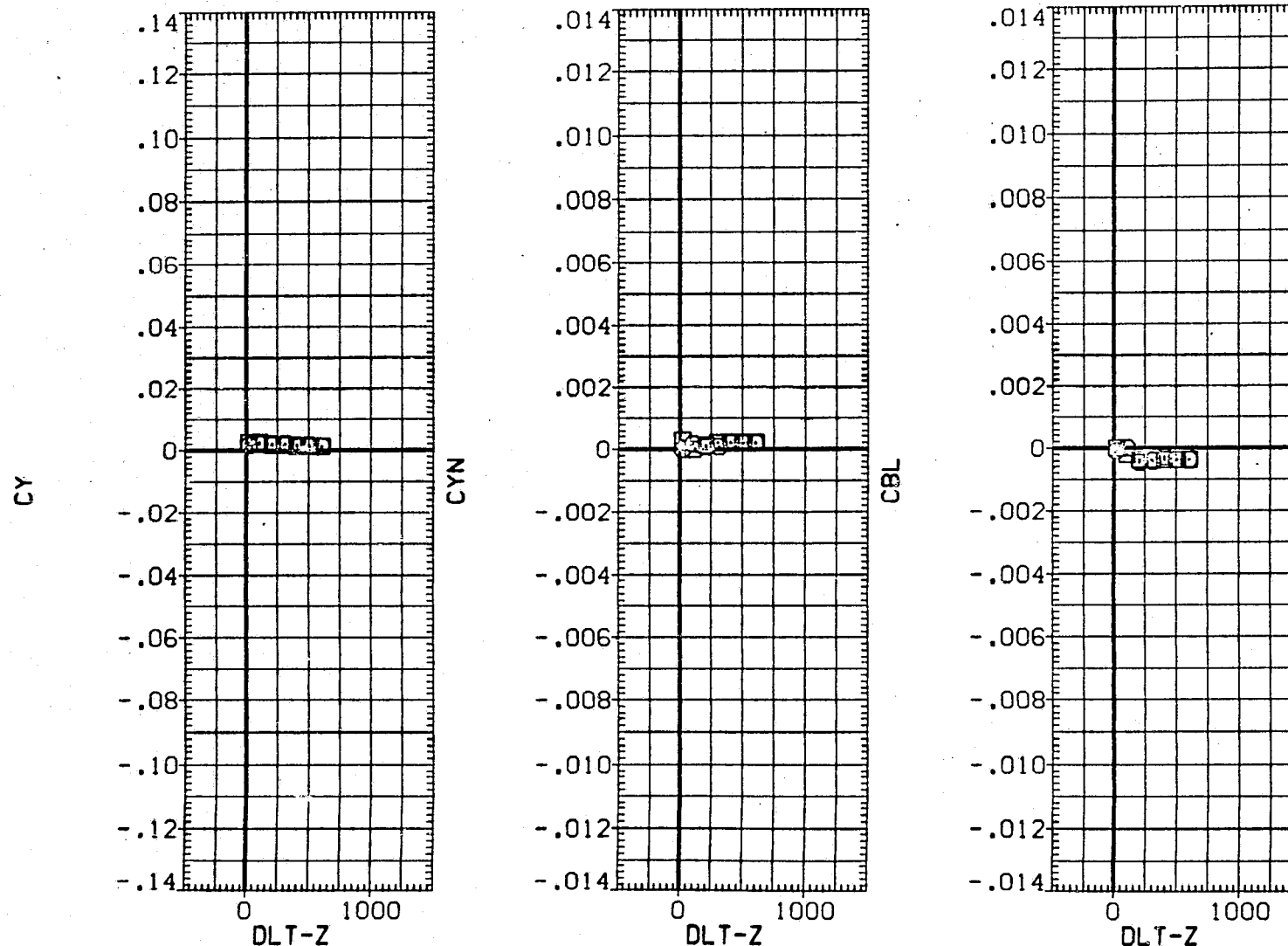


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR057)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.447		.000	.000
□	400.520	BETA	.000	-10.000
		DLTBTA	.000	MACH 5.930
		ATLRON	.000	ELEVON -20.000
		GRID	13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

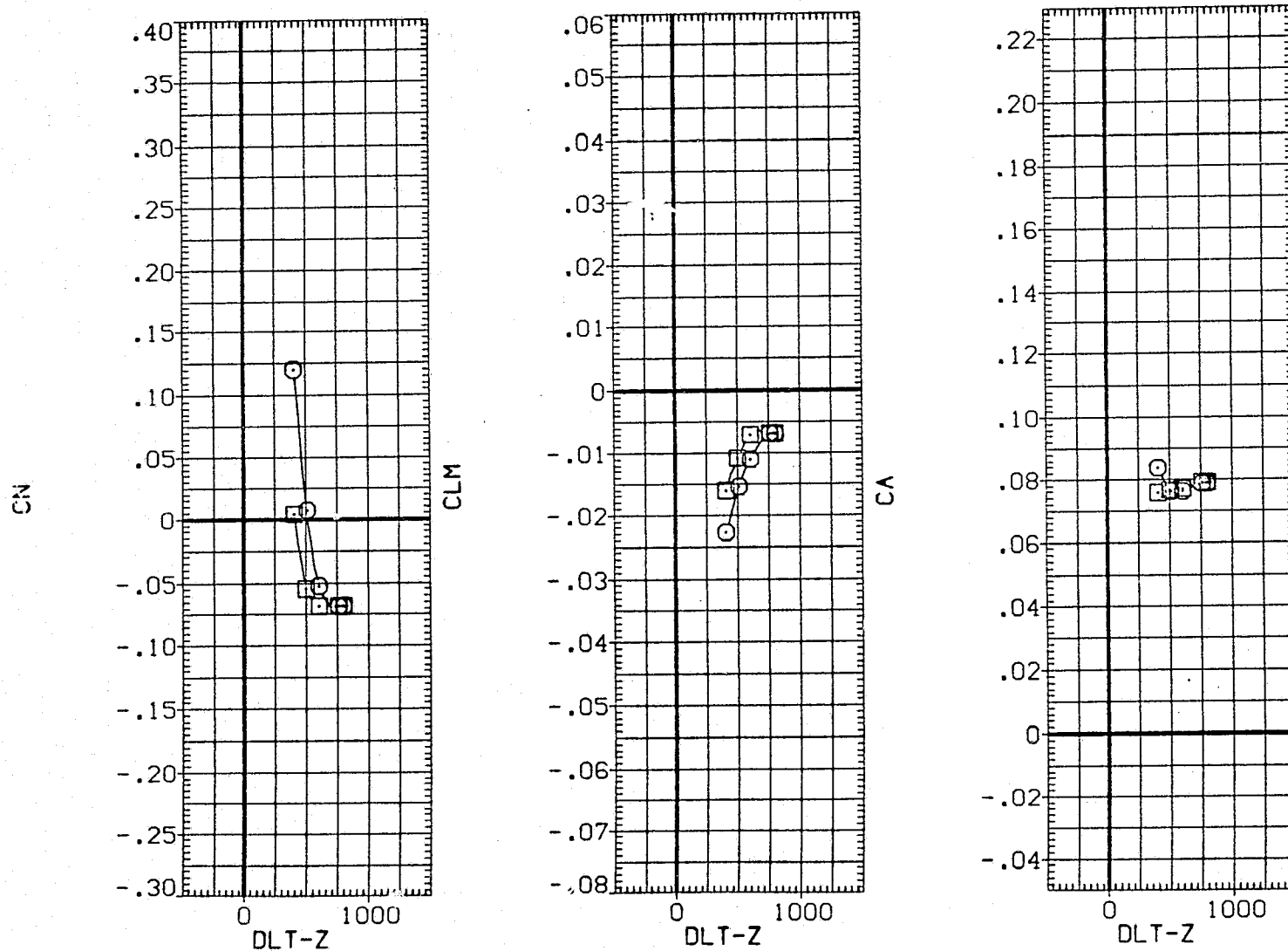


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR057)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
□	.447	.000	ALPHA	.000
□	400.520	.000	DLTALF	-10.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		13.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

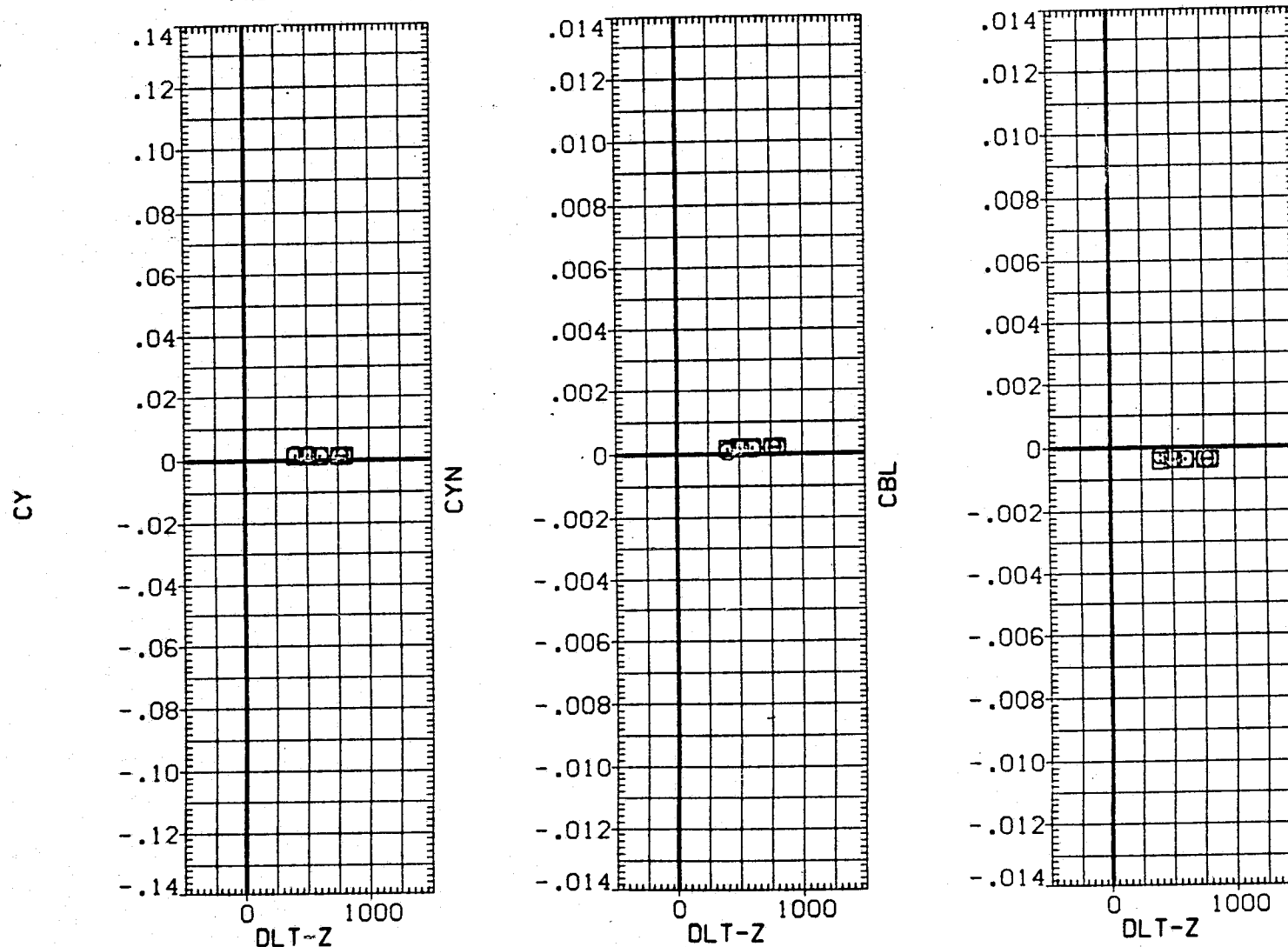


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR059)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.442	.000	DLTALF	-20.000
□	400.400	.000	MACH	5.930
		.000	ELEVON	-20.000
		GRID	13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

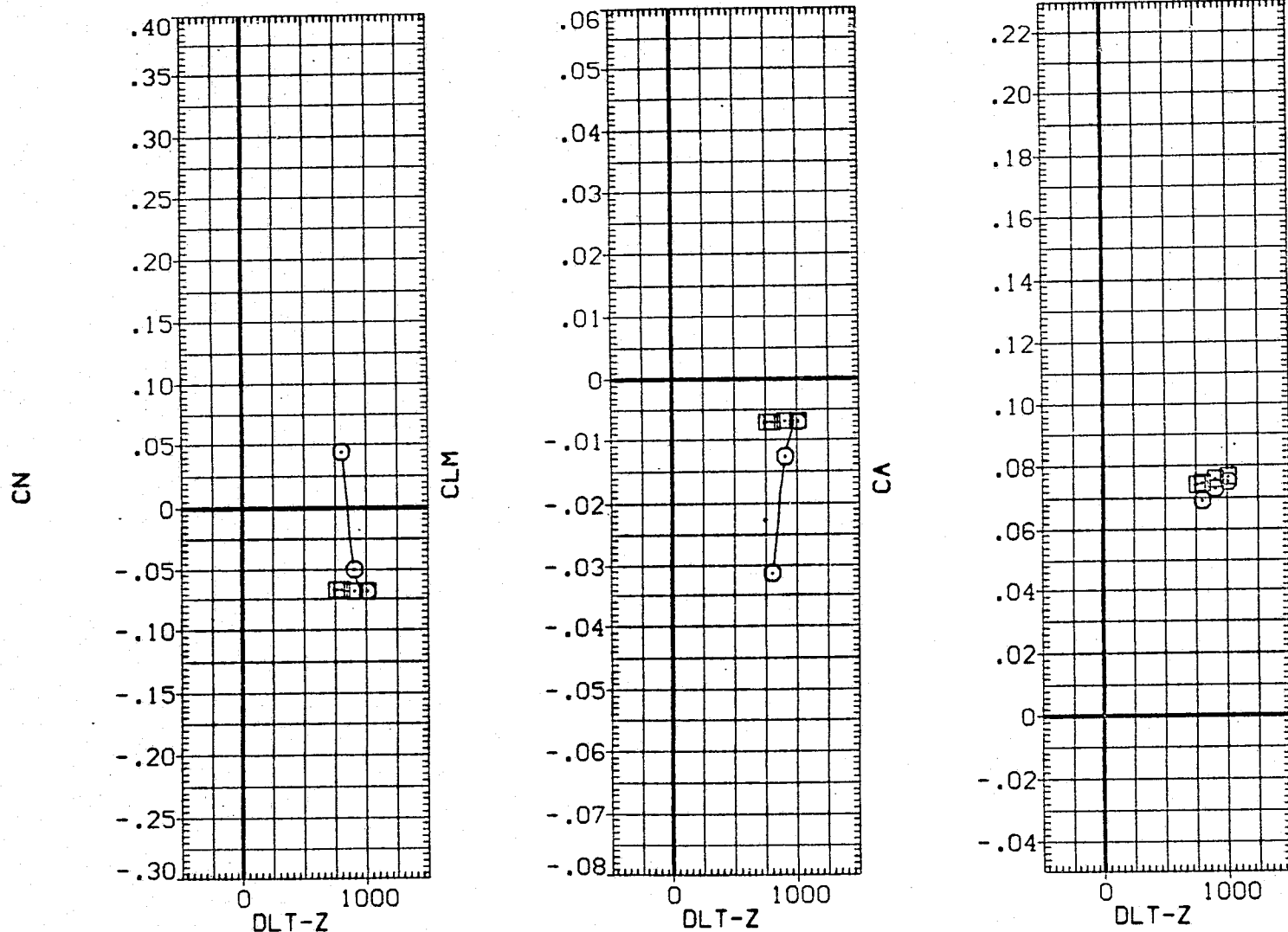


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR059)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.442	.000	DLTALF	.000
□	400.400	.000	MACH	-20.000
		.000	ELEVON	5.930
		.000		-20.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

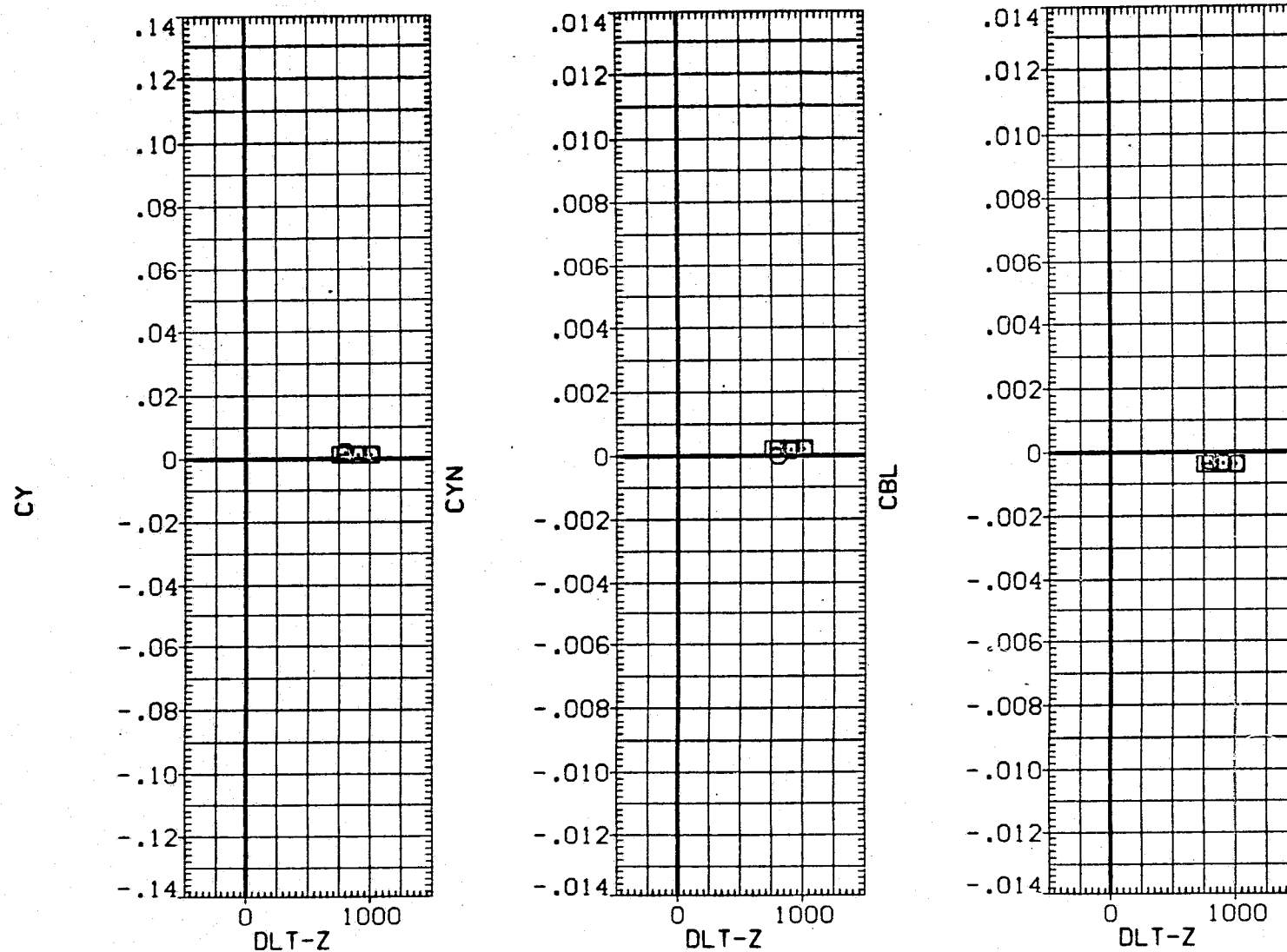


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR060)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.610	DLT-Y .000	ALPHA .000
		BETA 3.000	DLTALF .000
		DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON -20.000
		GRID 14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

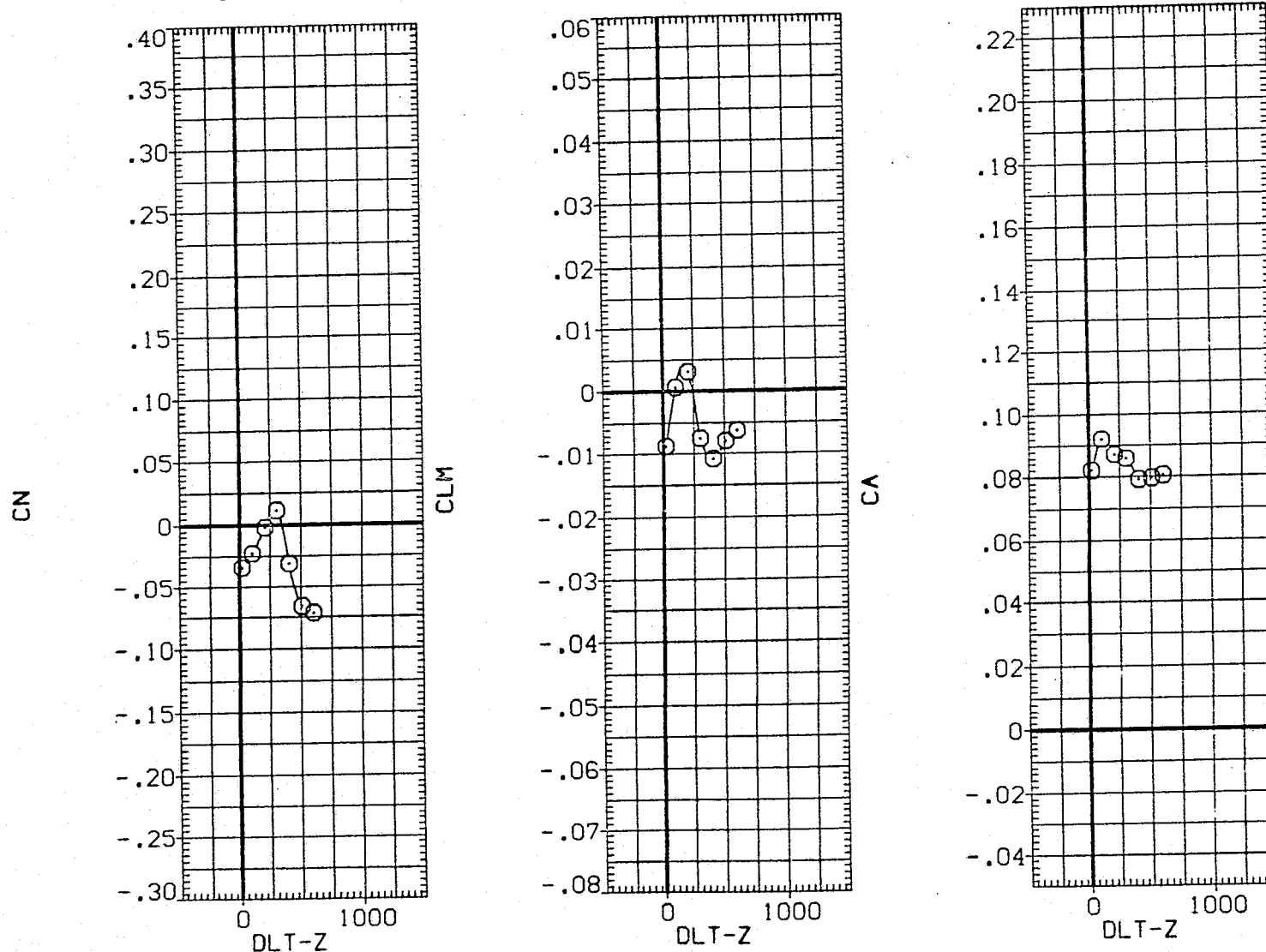


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR060)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.610	DLT-Y	.000	ALPHA	.000
		BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		ATLRON	.000	ELEVON	-20.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

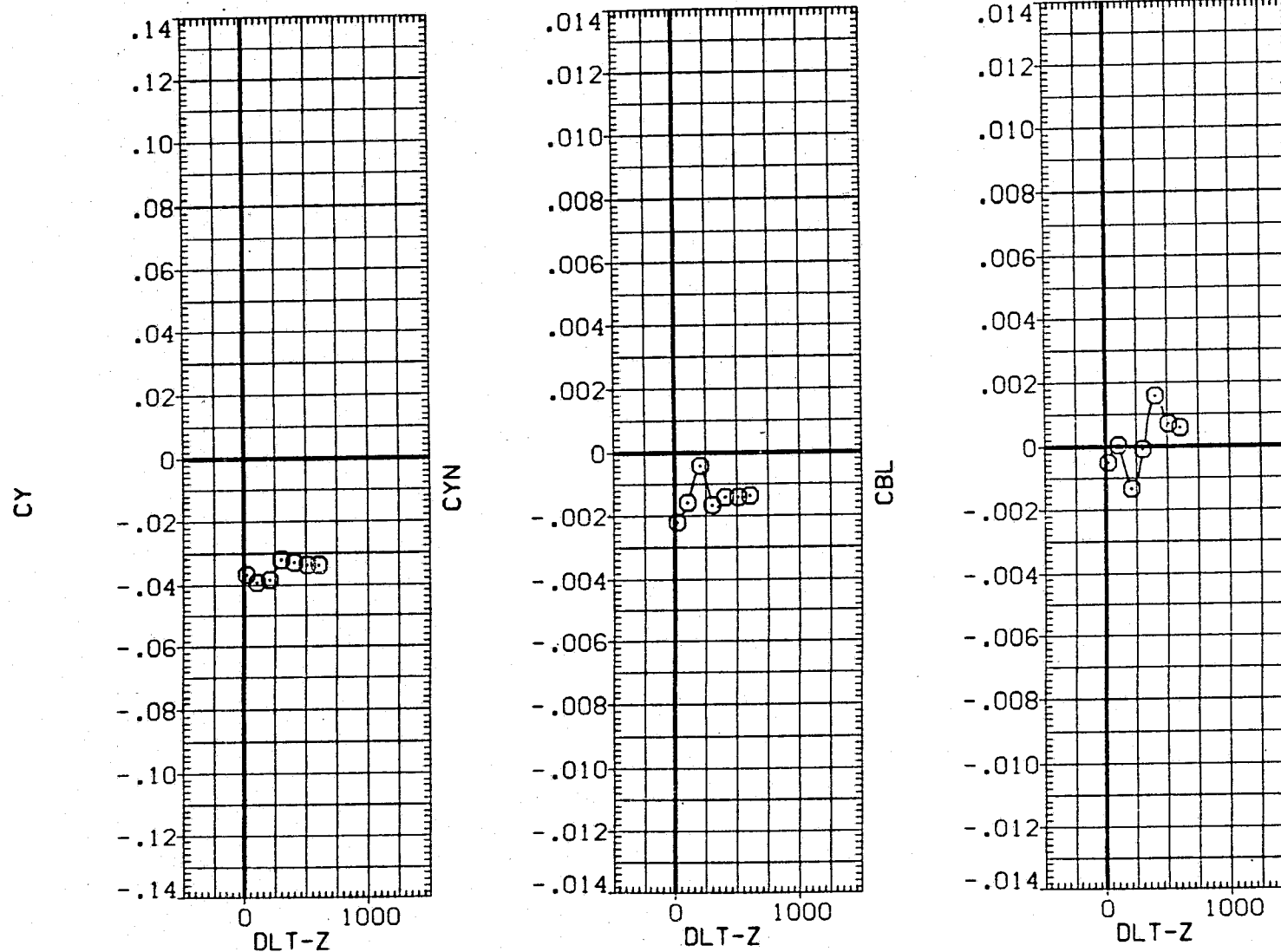


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR061)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.581		.000	.000
		BETA	3.000	-10.000
		DLTBTA	.000	5.930
		ATLRON	.000	-20.000
		GRID	14.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

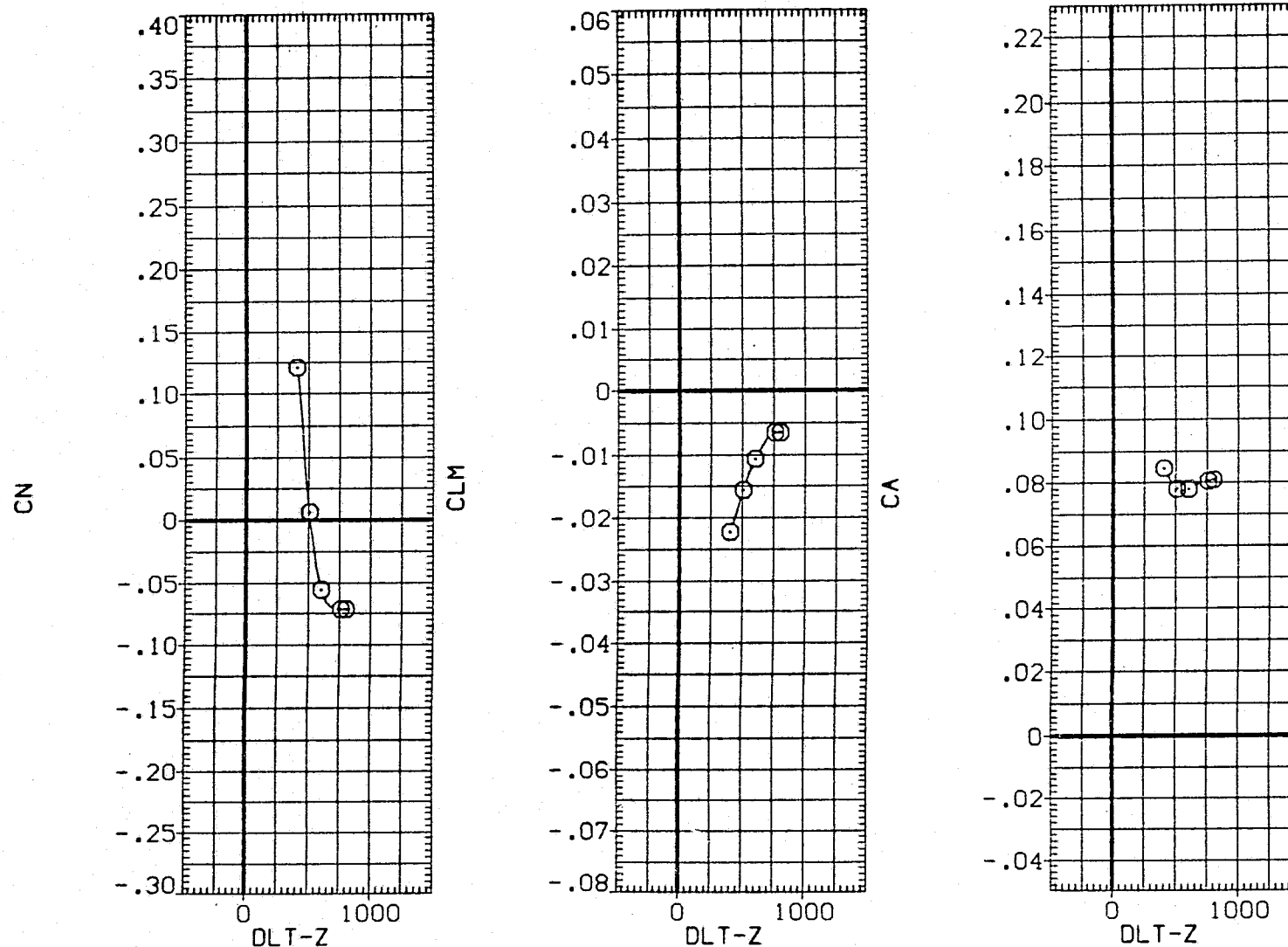


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTRO61)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.581	DLT-Y .000 ALPHA .000
		BETA 3.000 DLTALF -10.000
		DLTBTA .000 MACH 5.930
		AILRON .000 ELEVON -20.000
		GRID 14.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

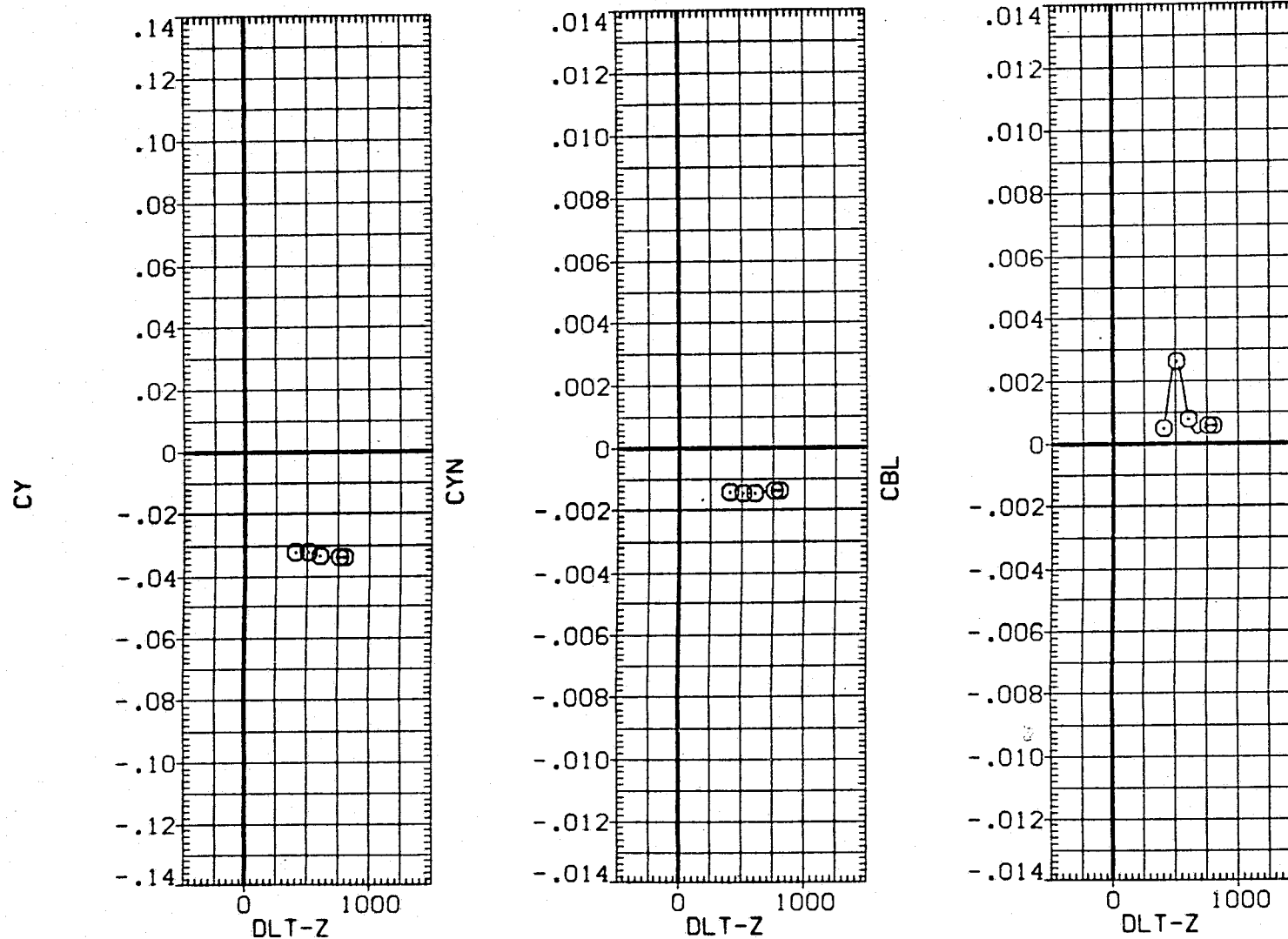


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR062)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
O	.507	.000	ALPHA	.000
	-	BETA	3.000	DLTALF -20.000
		DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON -20.000
		GRID	14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

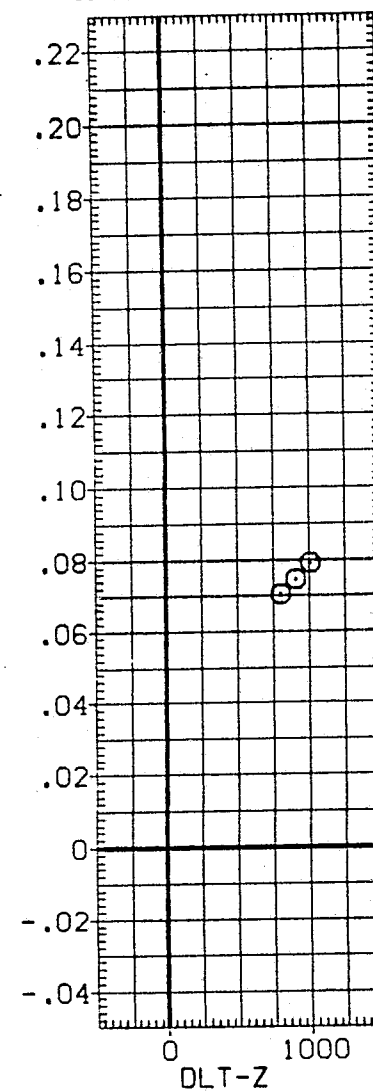
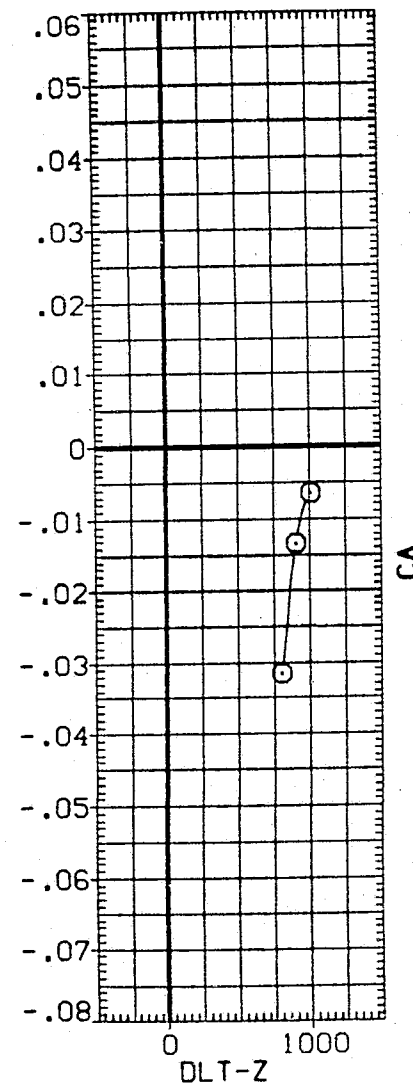
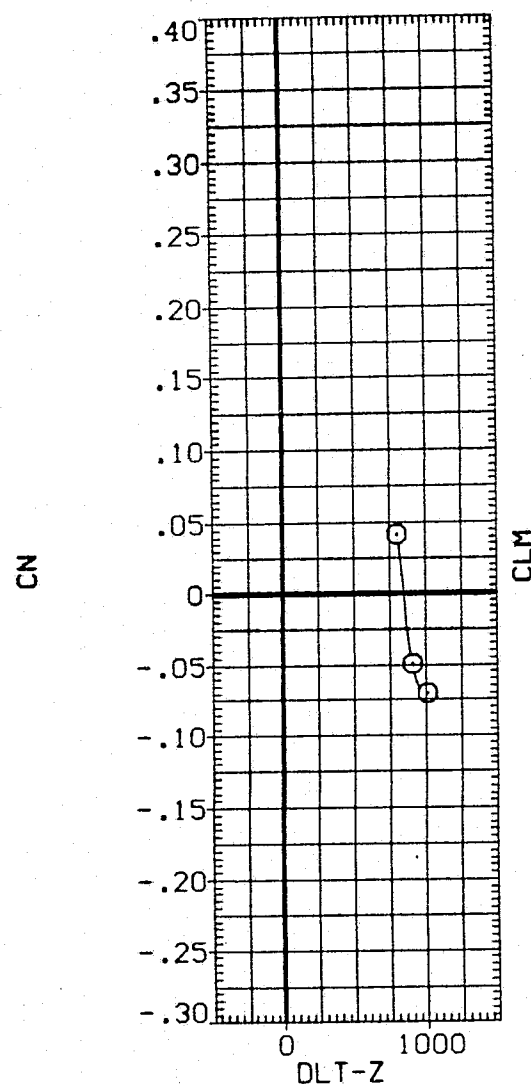


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR062)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.507	.000	BETA	.000
		3.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		14.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

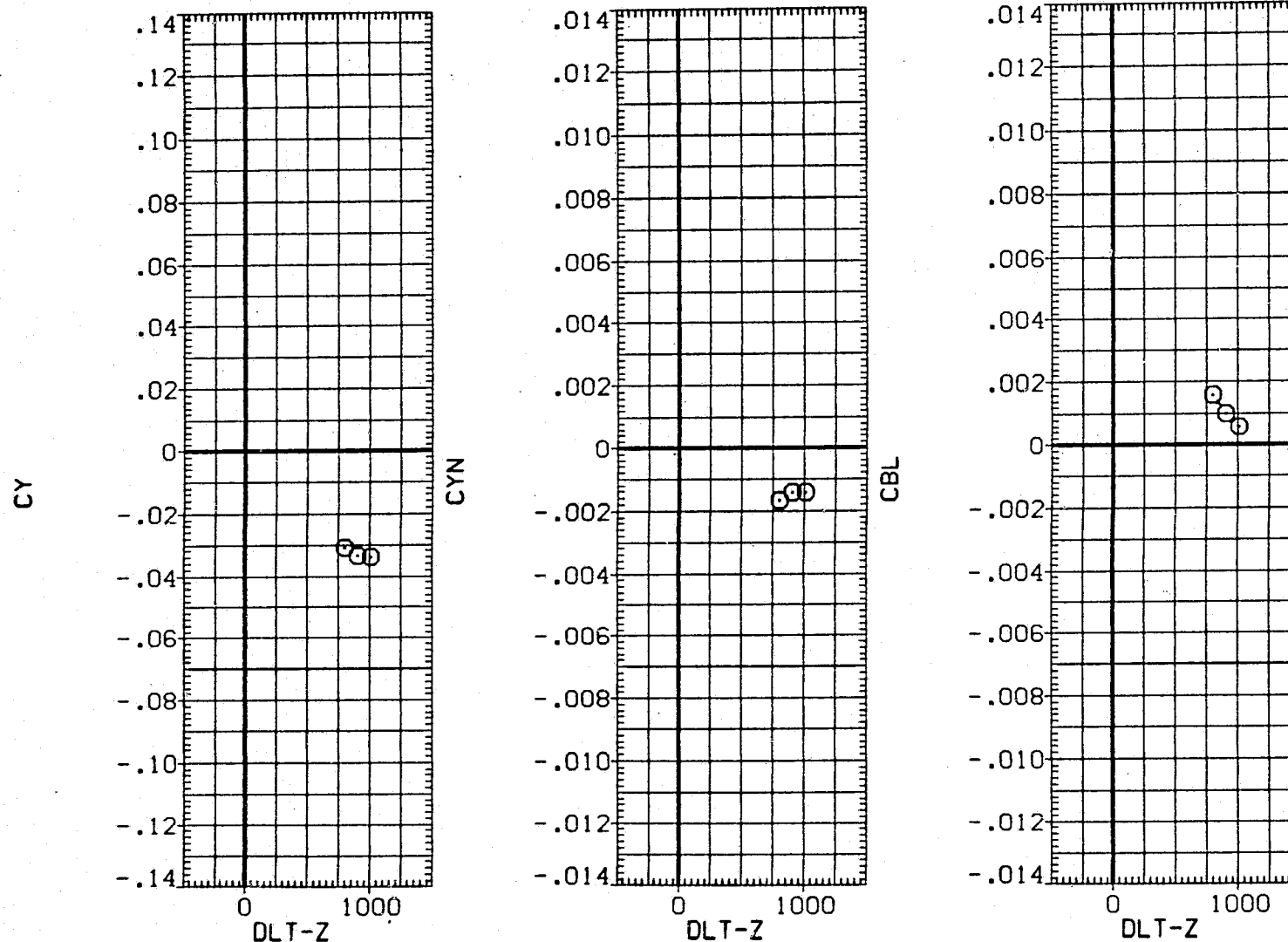


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR052)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.657	DLT-Y	.000	ALPHA 5.000
□	400.520	BETA	.000	DLTALF .000
		DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON -20.000
		GRID	12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

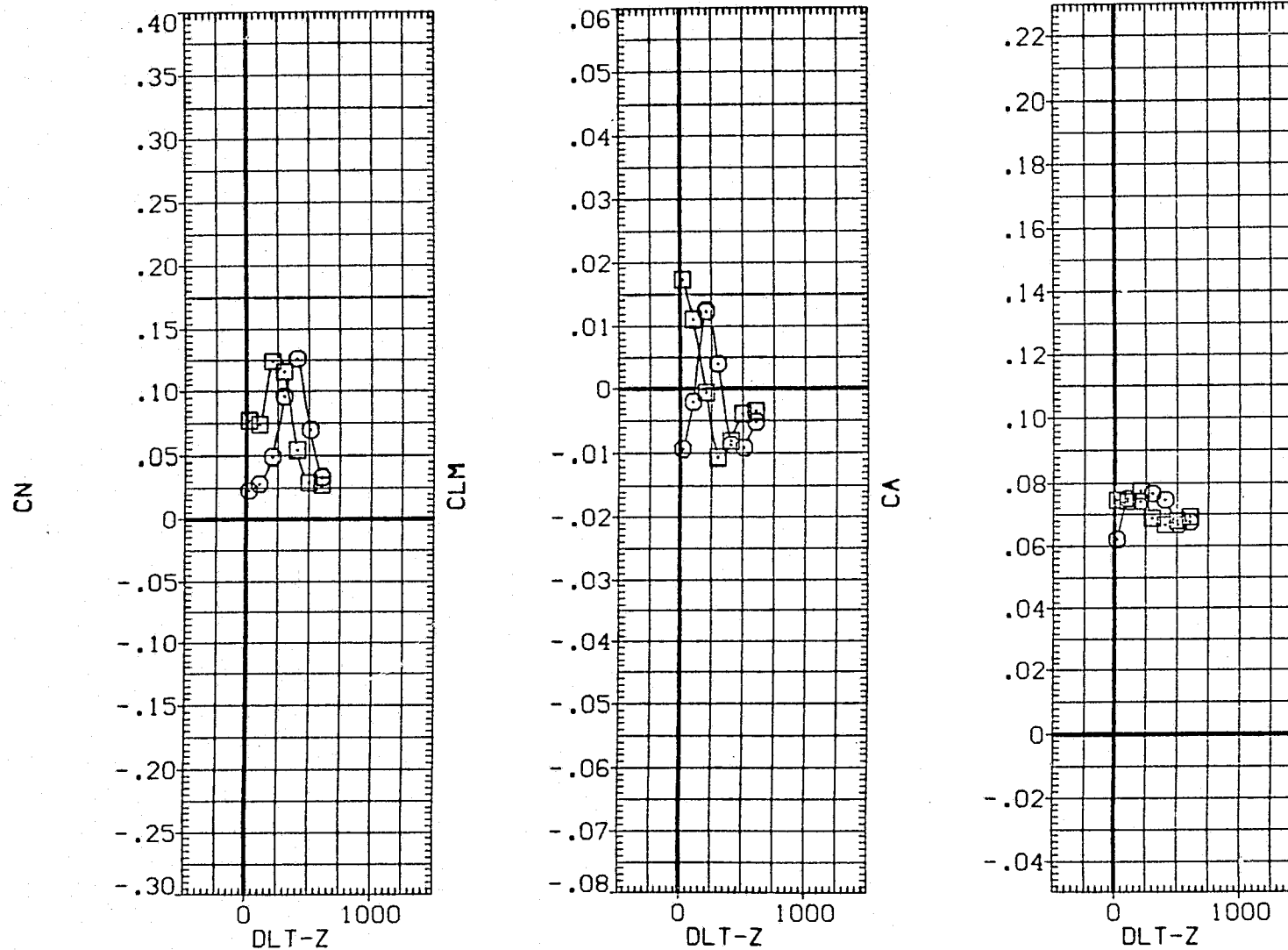


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR052)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.657	.000	BETA	.000	5.000
□	400.520	.000	DLTBTA	.000	.000
		.000	ATLRON	.000	5.930
		.000	GRID	12.000	ELEVON -20.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

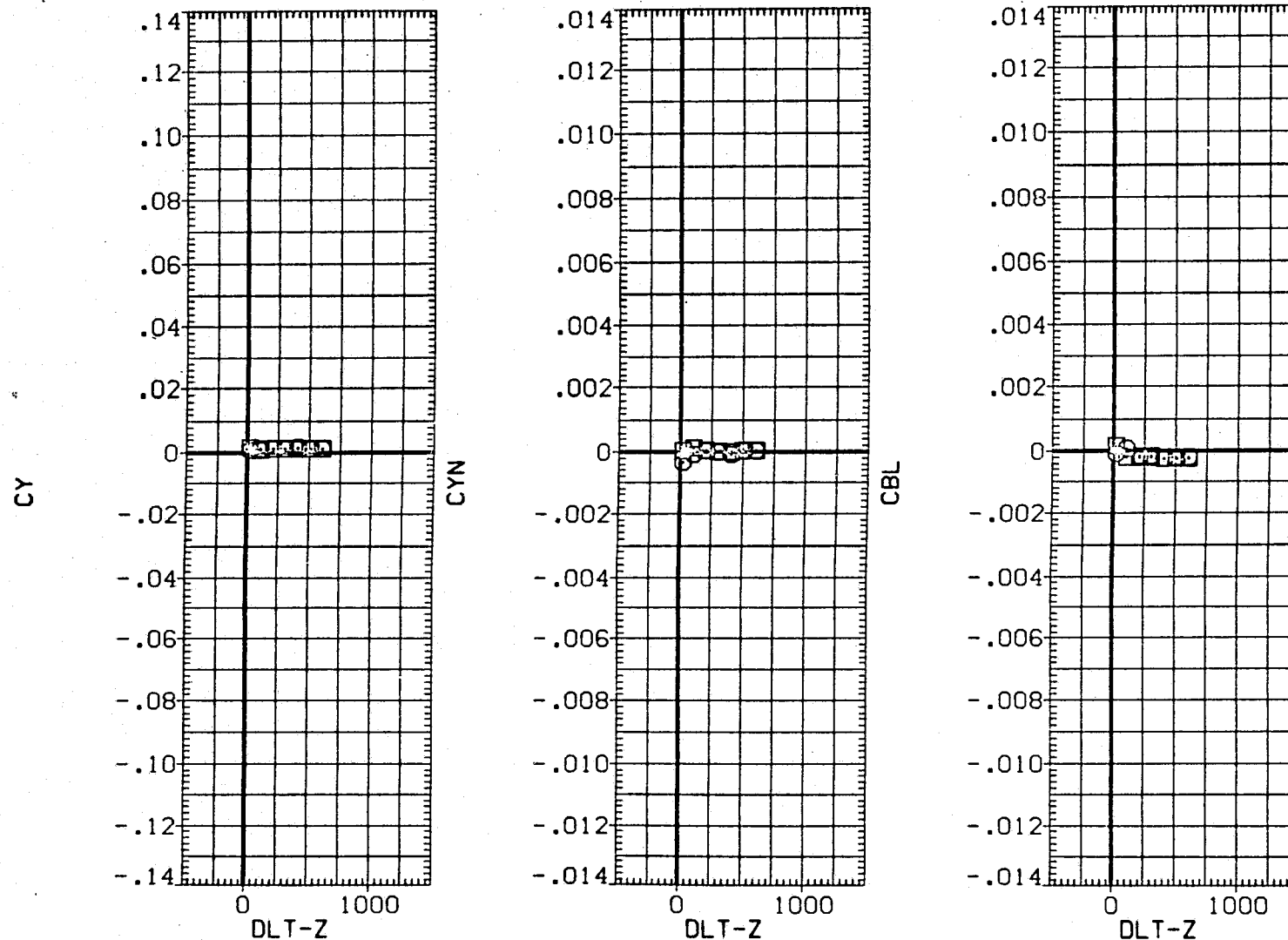


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR053)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.562	BETA	.000	ALPHA
□	400.470	DLTBTA	.000	DLTALF
		AILRON	.000	MACH
		GRID	12.000	ELEVON
				-20.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

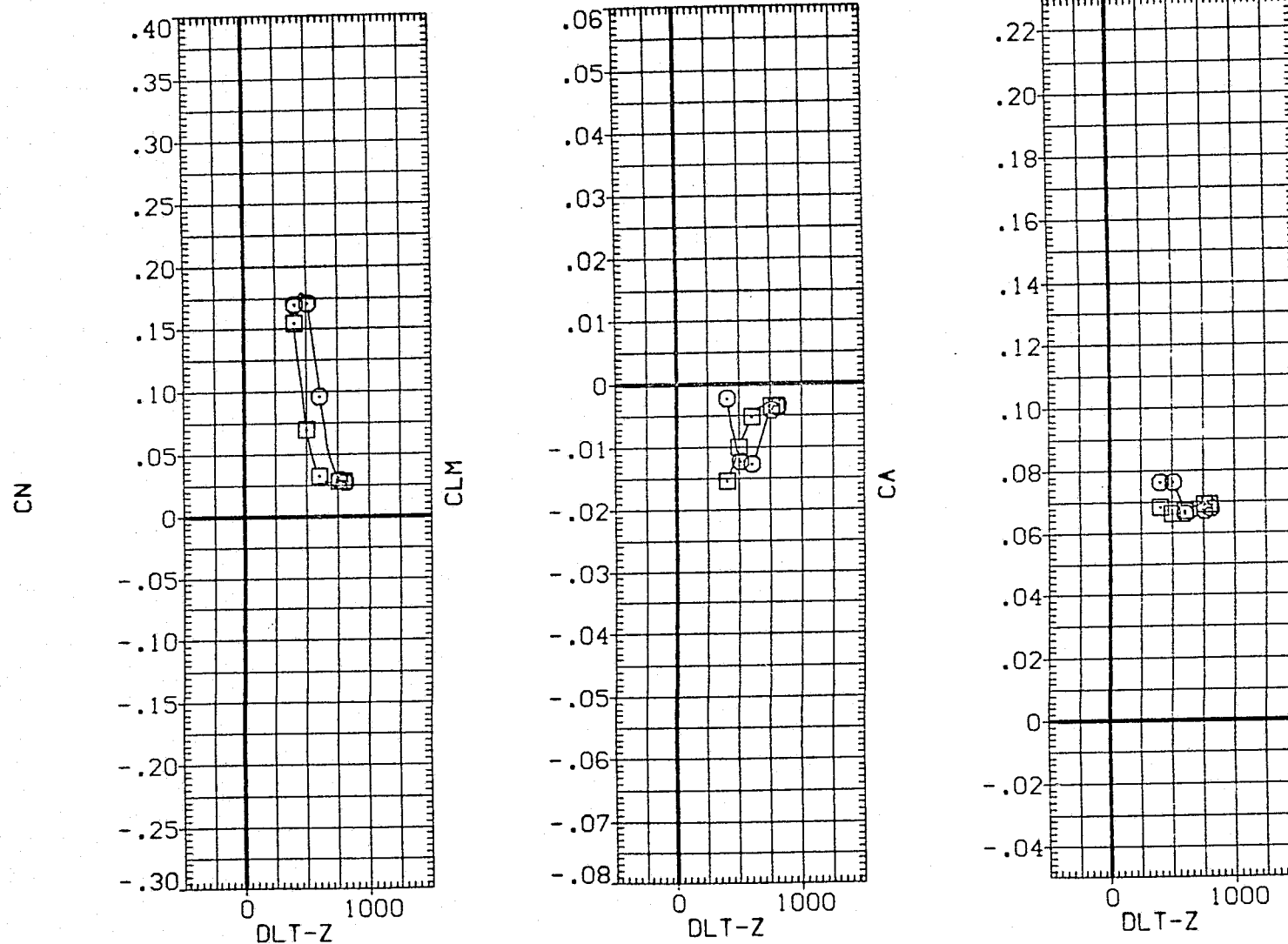


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR053)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	ALPHA	DLTALF	MACH	ELEVON
○	.562	.000	5.000	-10.000	5.930	-20.000
□	400.470	.000				
		DLTBTA				
		AILRON				
		GRID	12.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

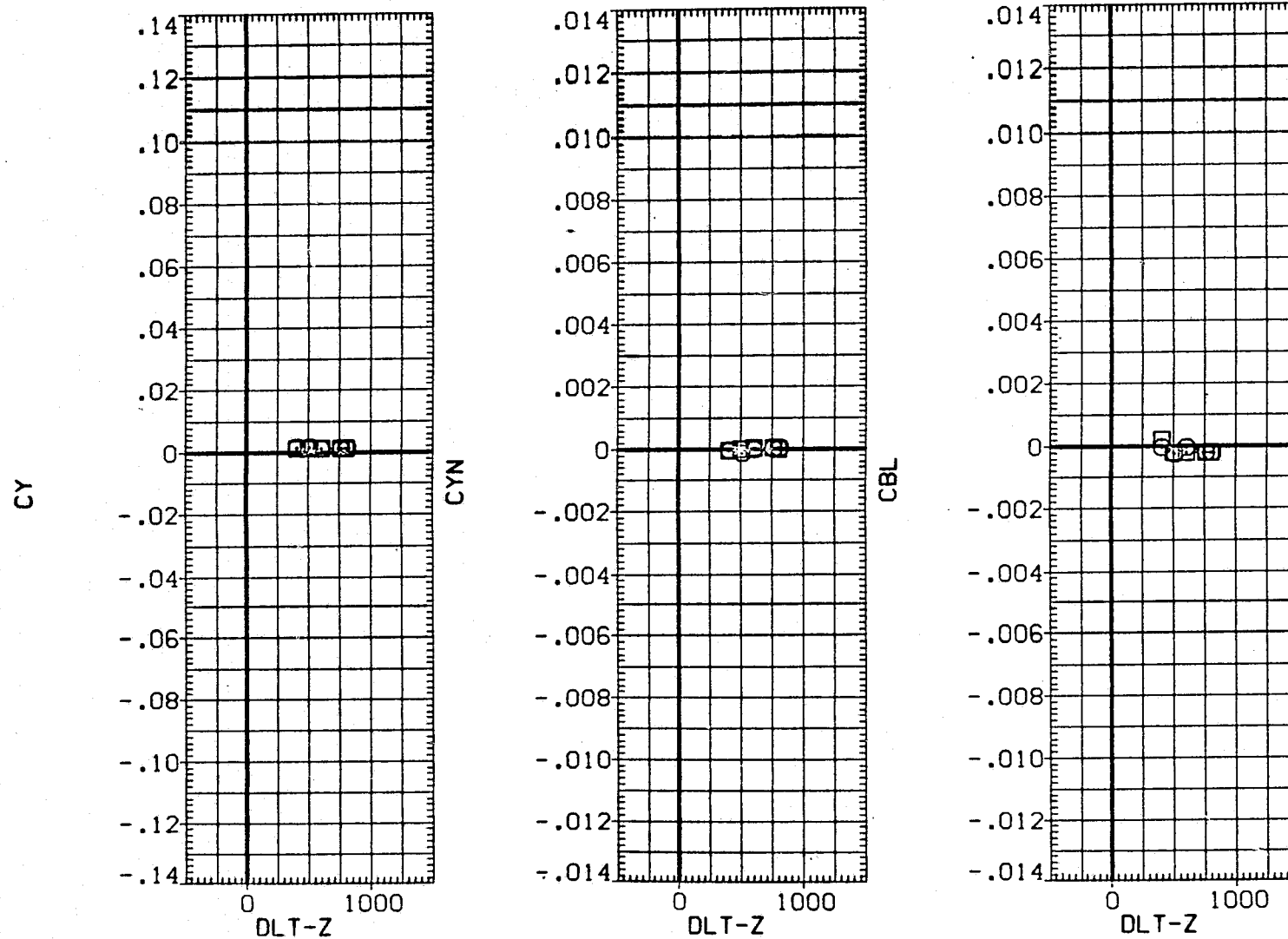


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR055)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.420	.000	ALPHA 5.000
□	400.500	.000	DLTALF -20.000
		.000	MACH 5.930
		.000	ELEVON -20.000
		.000	
		12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

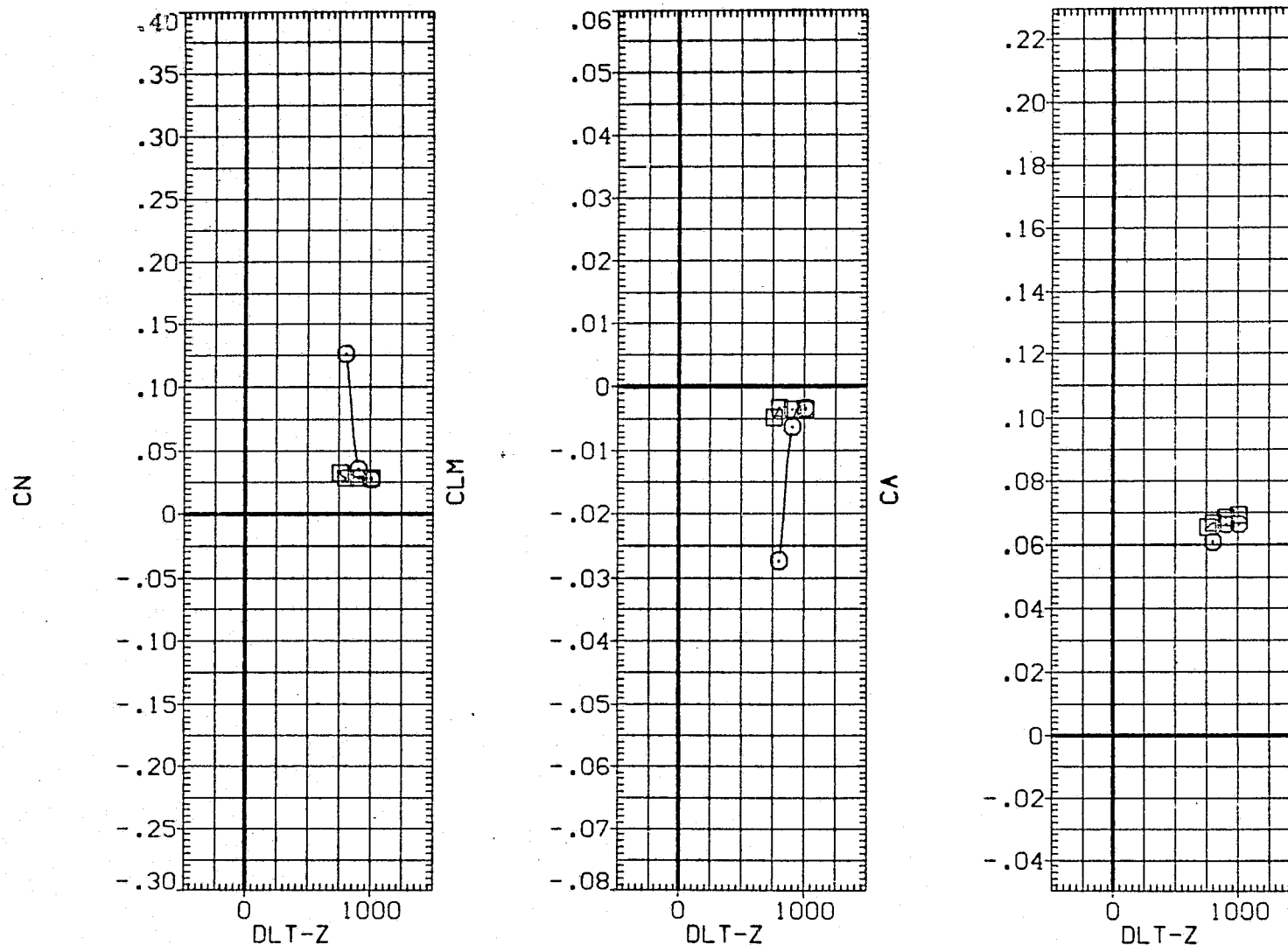


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR055)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.420	.000	BETA	5.000
□	400.500	.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		GRID	12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

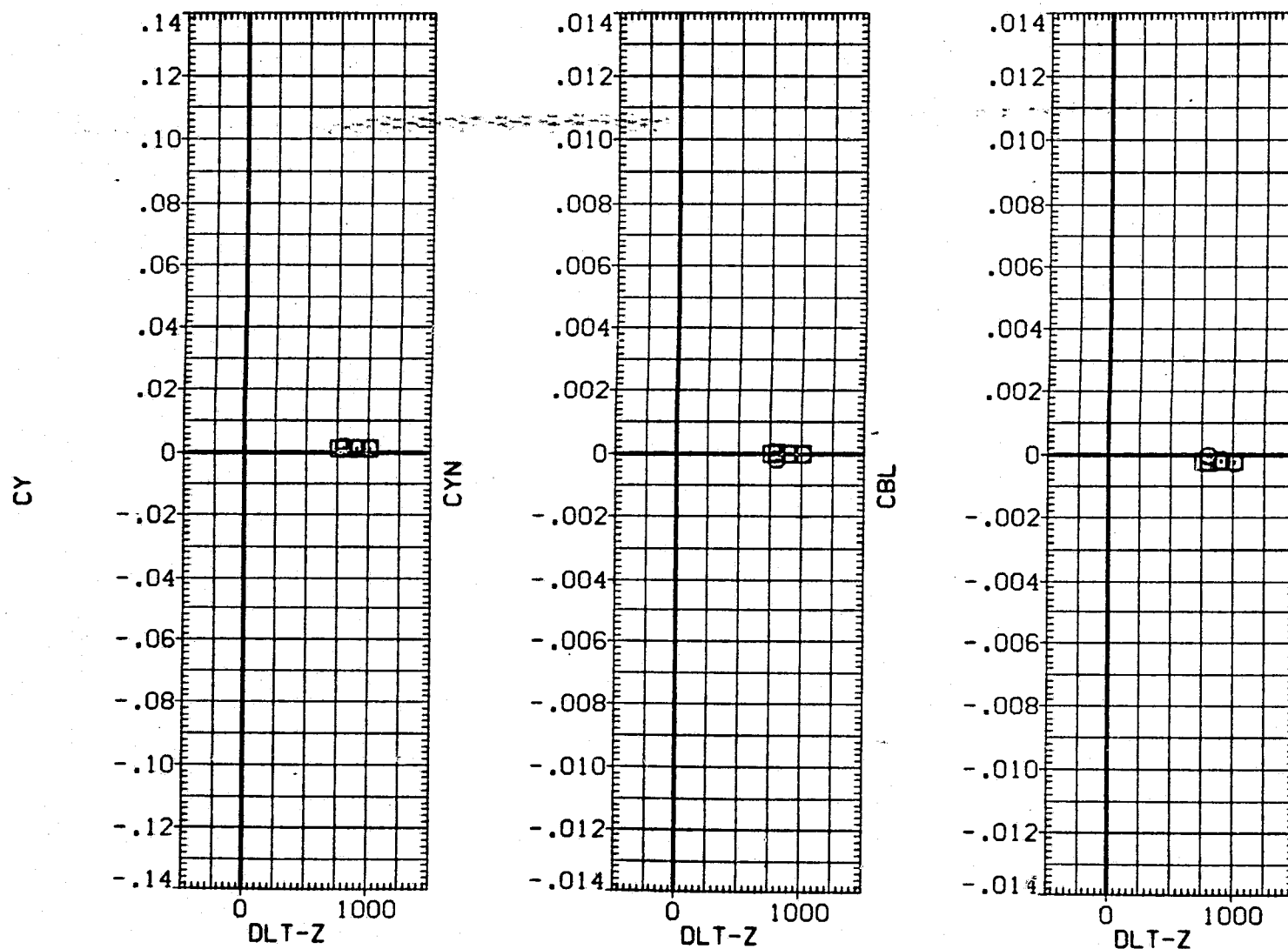


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR048)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.570	.000	ALPHA	-5.000
□	400.480	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		11.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

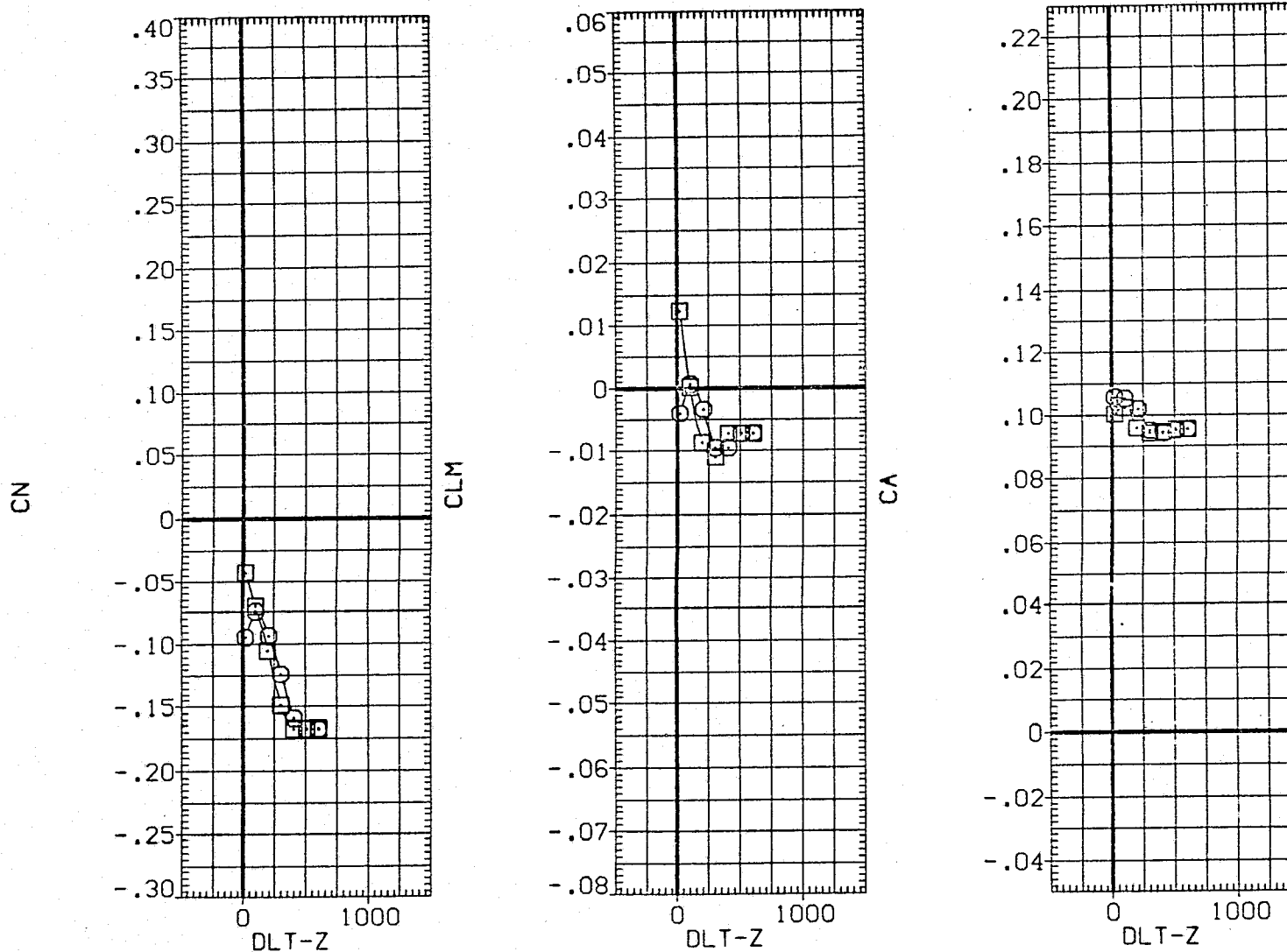


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR048)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.570	.000	ALPHA	-5.000
□	400.480	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

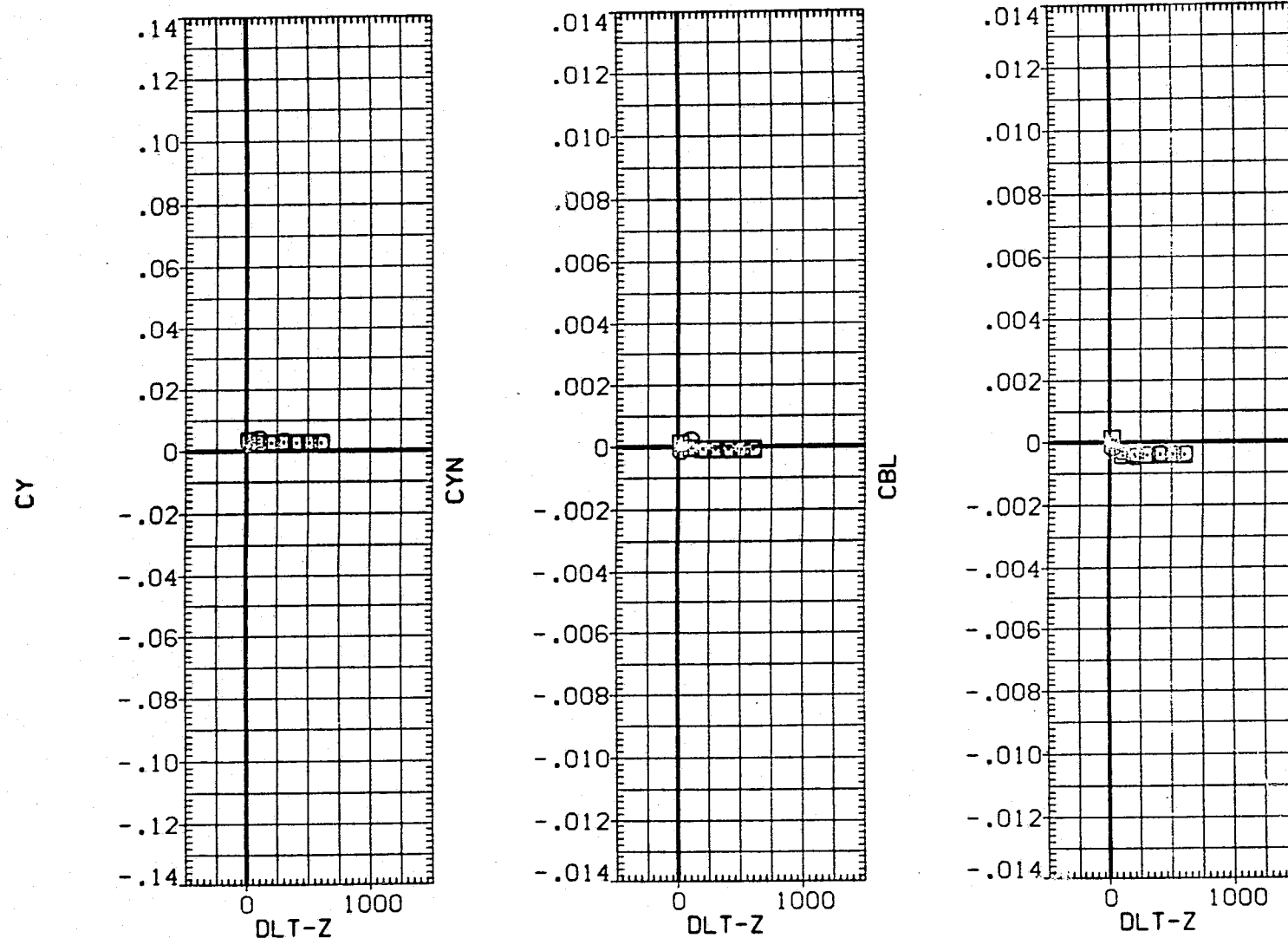


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR049)

SYMBOL		PARAMETRIC VALUES	
○	DLT-X .520	DLT-Y .000	ALPHA -5.000
□	400.490	BETA .000	DLTALF -10.000
		DLTBT A .000	MACH 5.930
		AIRLON .000	ELEVON -20.000
		GRID 11.000	

REFERENCE INFORMATION

SREF	2690.0000	SO. FT.
LREF	1290.3000	IN.
BREE	1290.3000	IN.
XM RP	1089.6000	IN. XO
YM RP	.0000	IN. YO
ZM RP	375.0000	IN. ZO
SCALE	.0100	

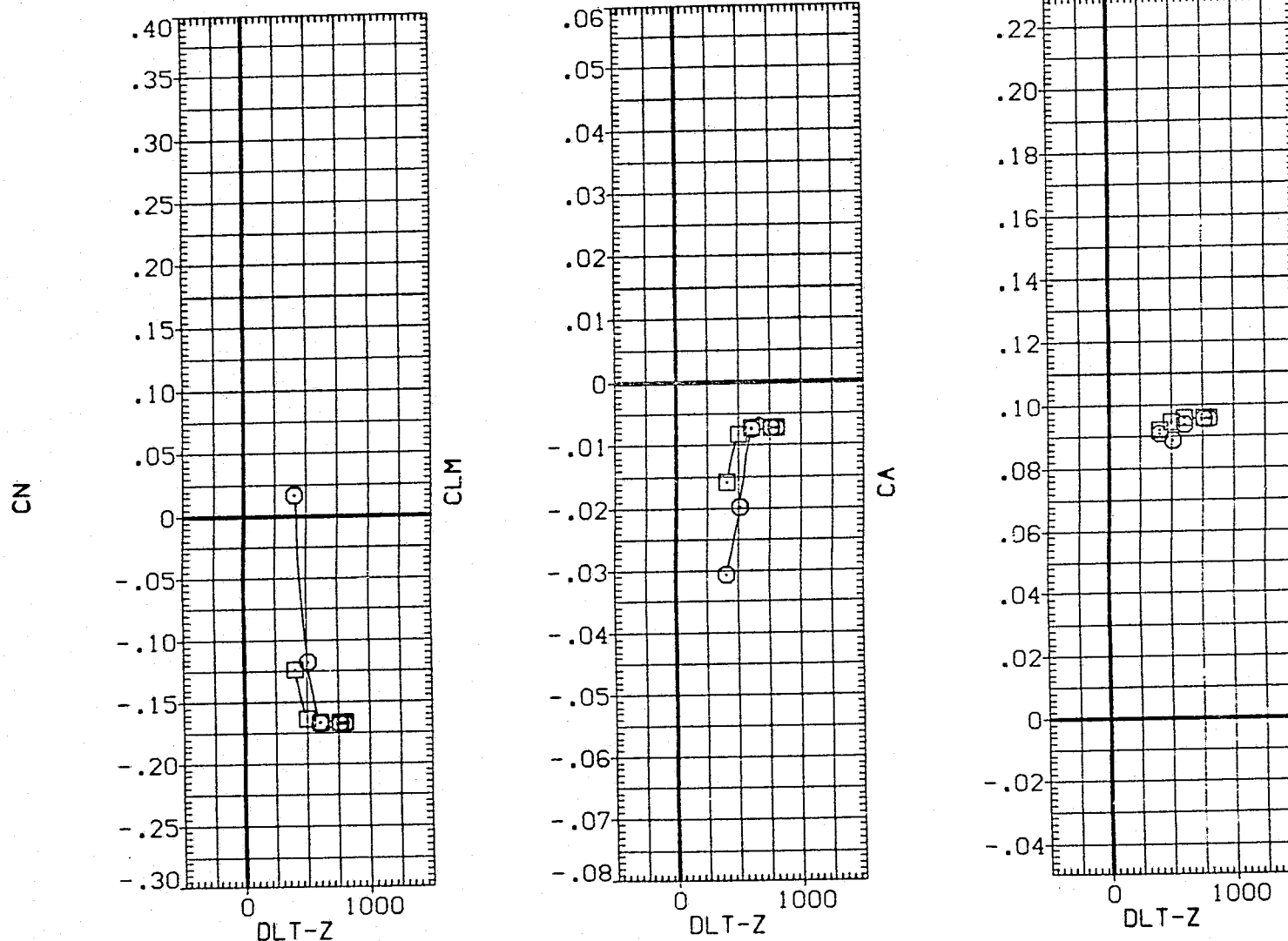


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR049)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.520	.000	.000	.000	.000	11.000	ALPHA	-5.000			
□	400.490	.000	.000	.000	.000		DLTALF	-10.000			
		.000	.000	.000	.000		MACH	5.930			
		.000	.000	.000	.000		ELEVON	-20.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

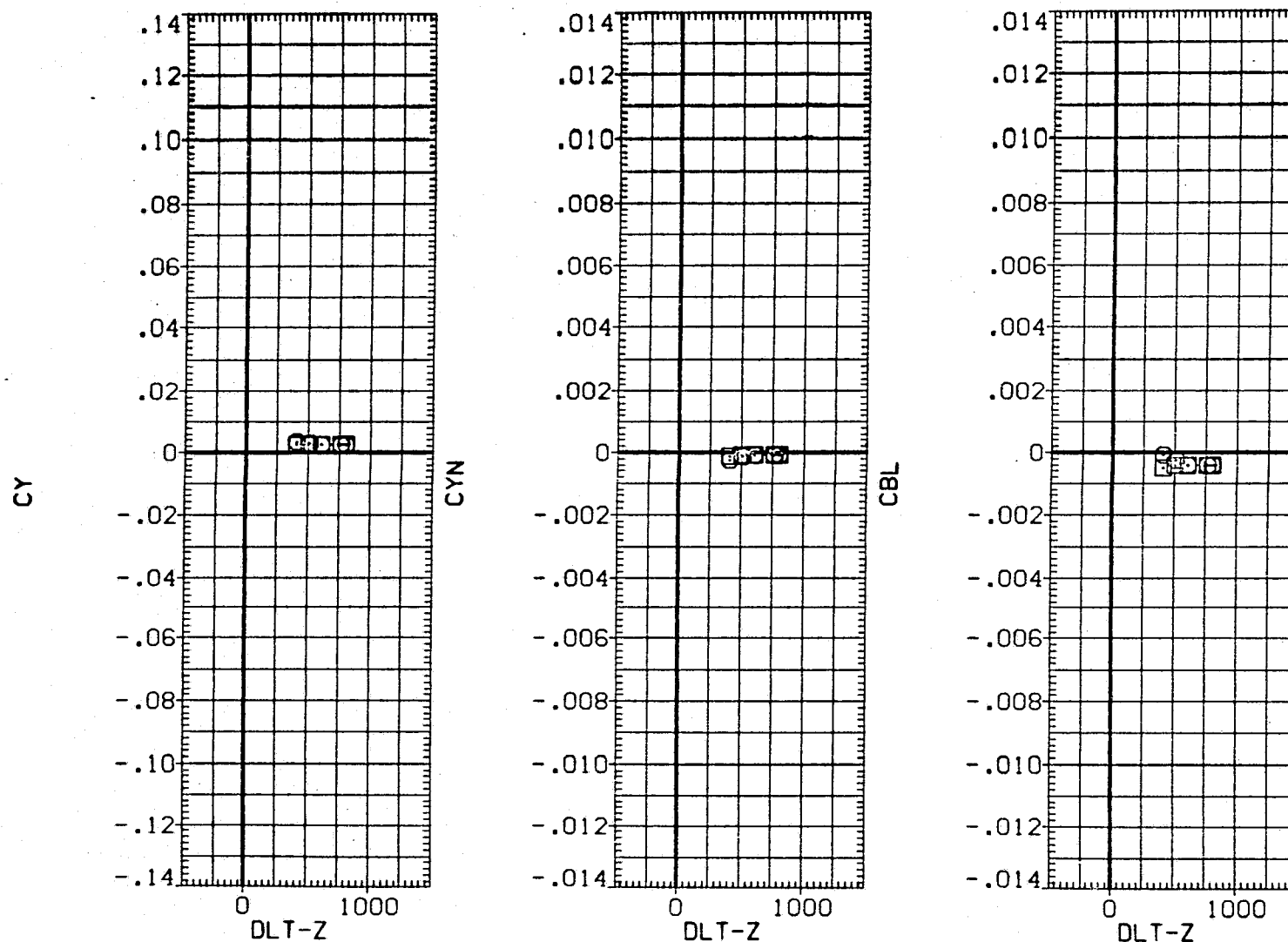


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR051)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.408	.000	ALPHA	-5.000
□	400.440	.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		11.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

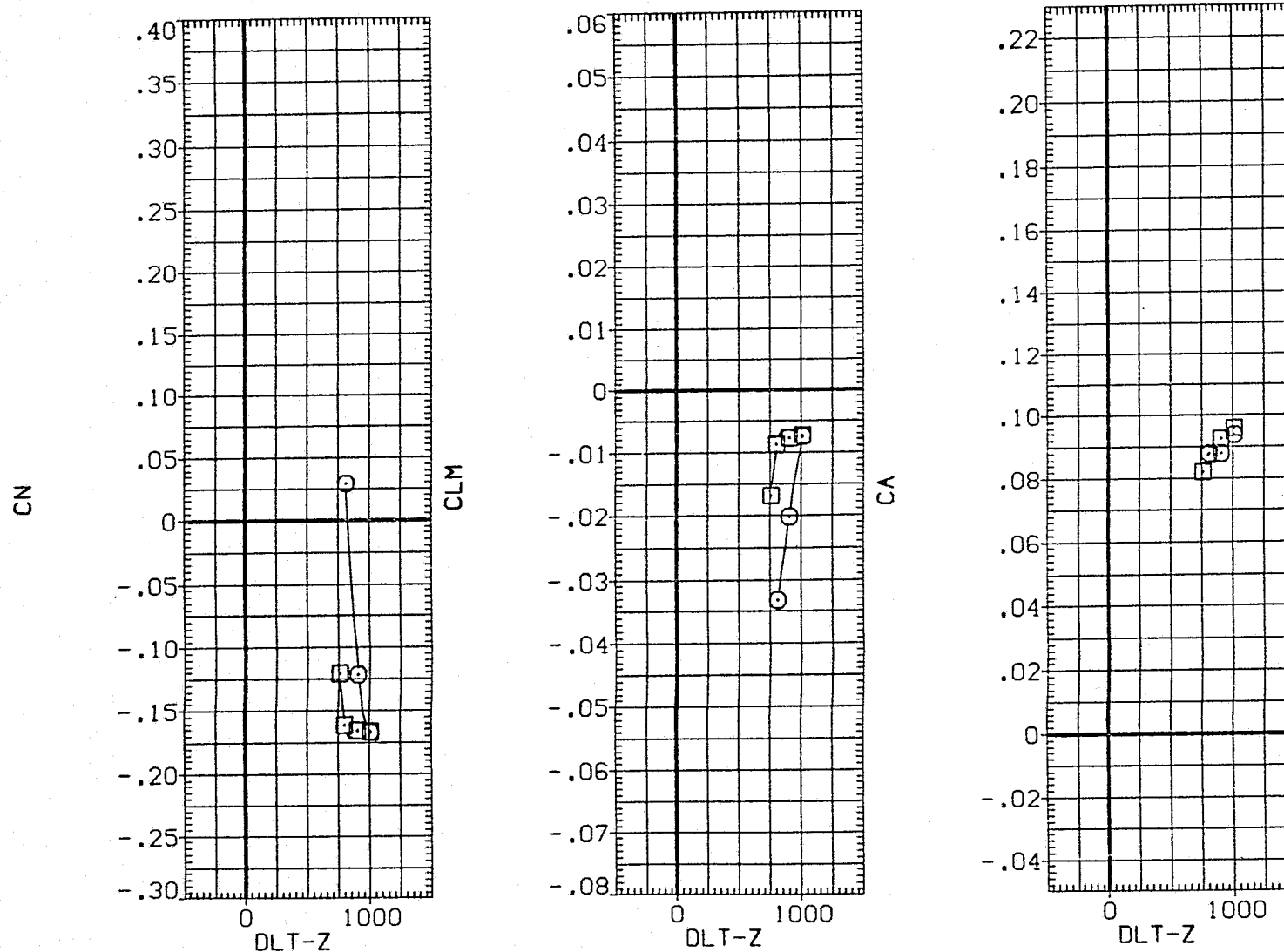


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR051)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.408	BETA	.000	ALPHA
□	400.440	DLTBT	.000	DLTALF
		AILRON	.000	MACH
		GRID	11.000	ELEVON
				-5.000
				-20.000
				5.930
				-20.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	375.0000	IN. Y0
SCALE	.0100	IN. Z0

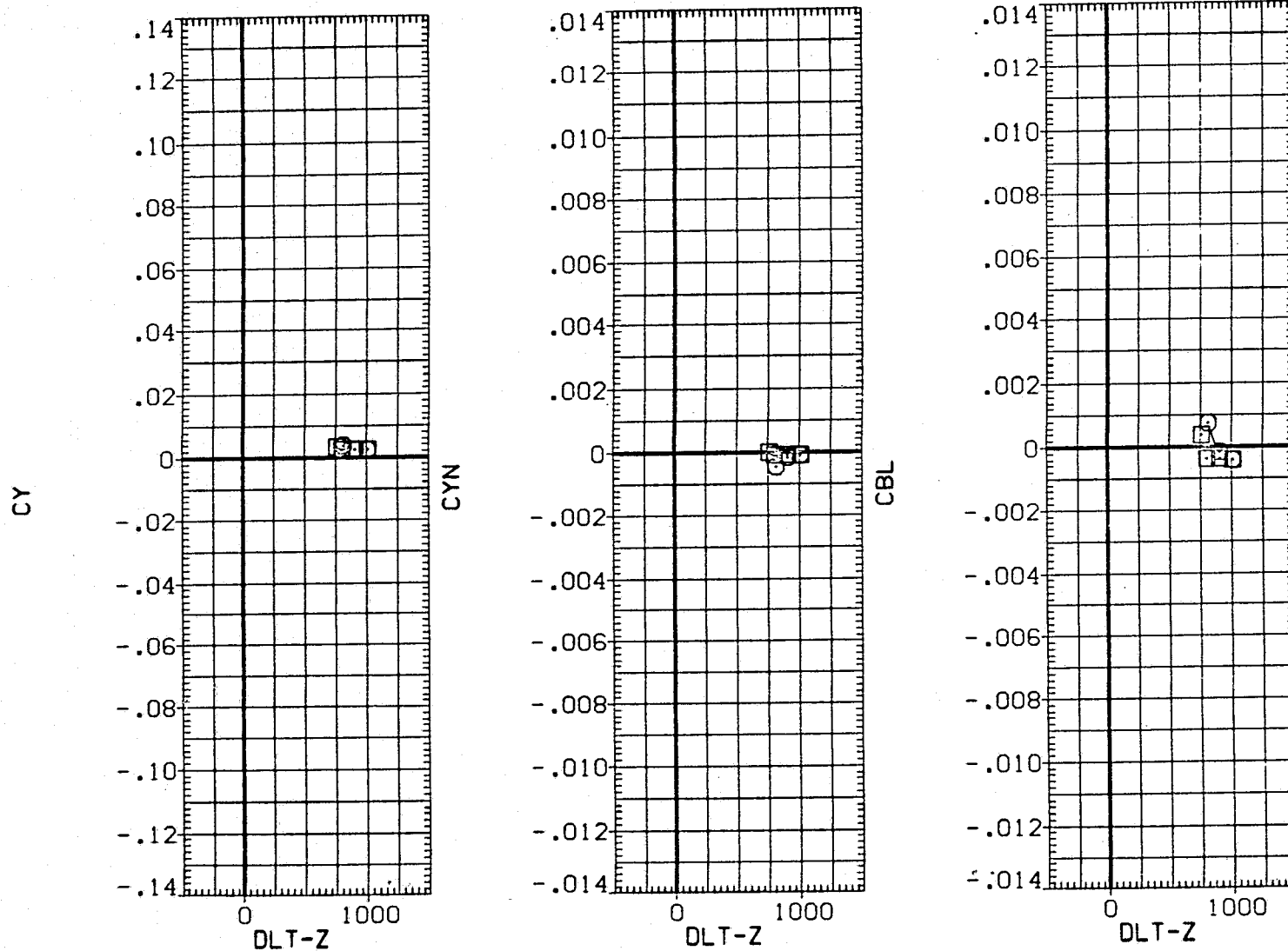


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR046)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.503	.000	ALPHA	-10.000
□	400.420	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	-20.000
		10.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

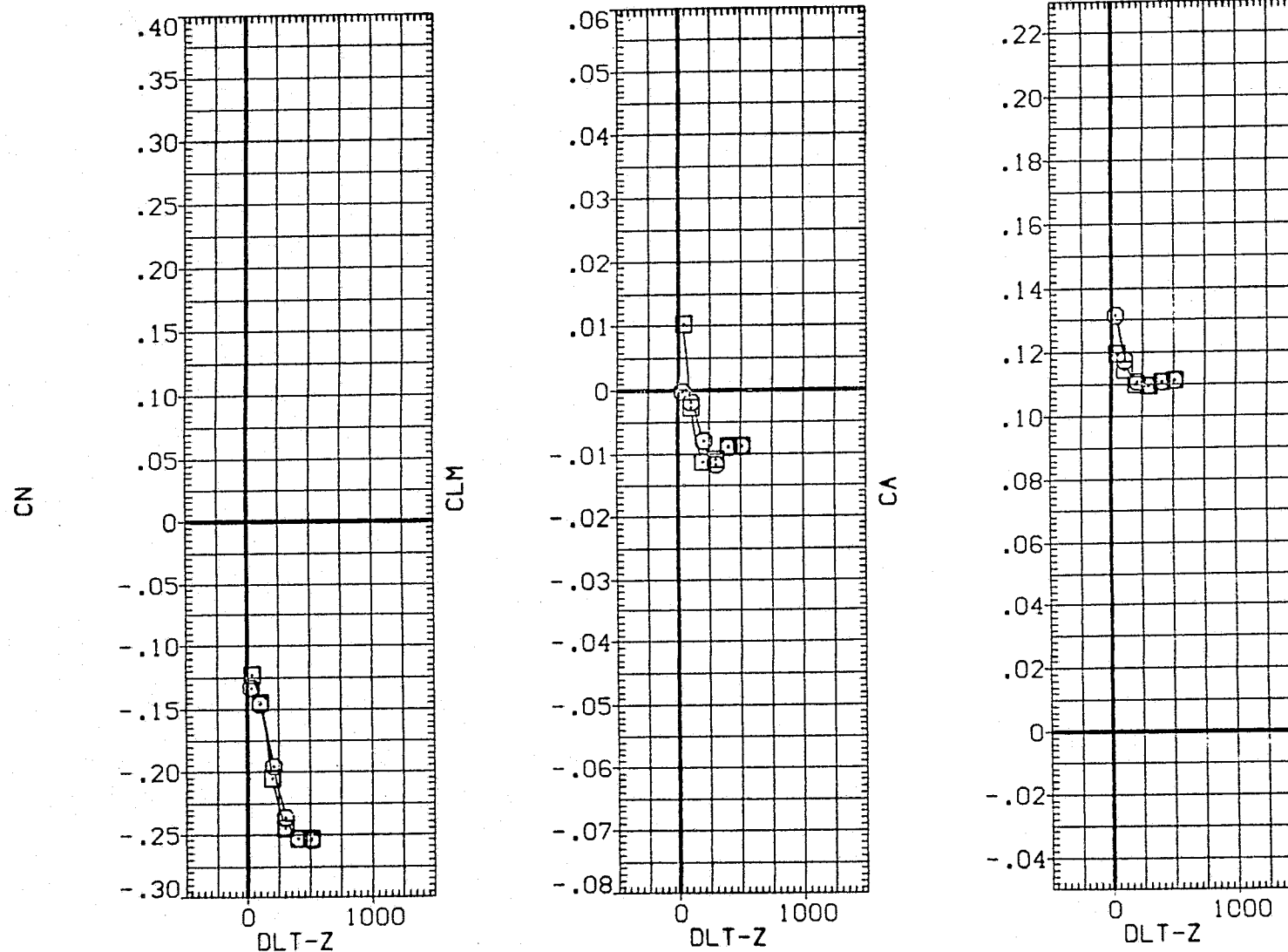


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR046)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.503	.000	DLTALF	-10.000
□	400.420	.000	MACH	.000
		.000	ELEVON	5.930
		.000		-20.000
		10.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

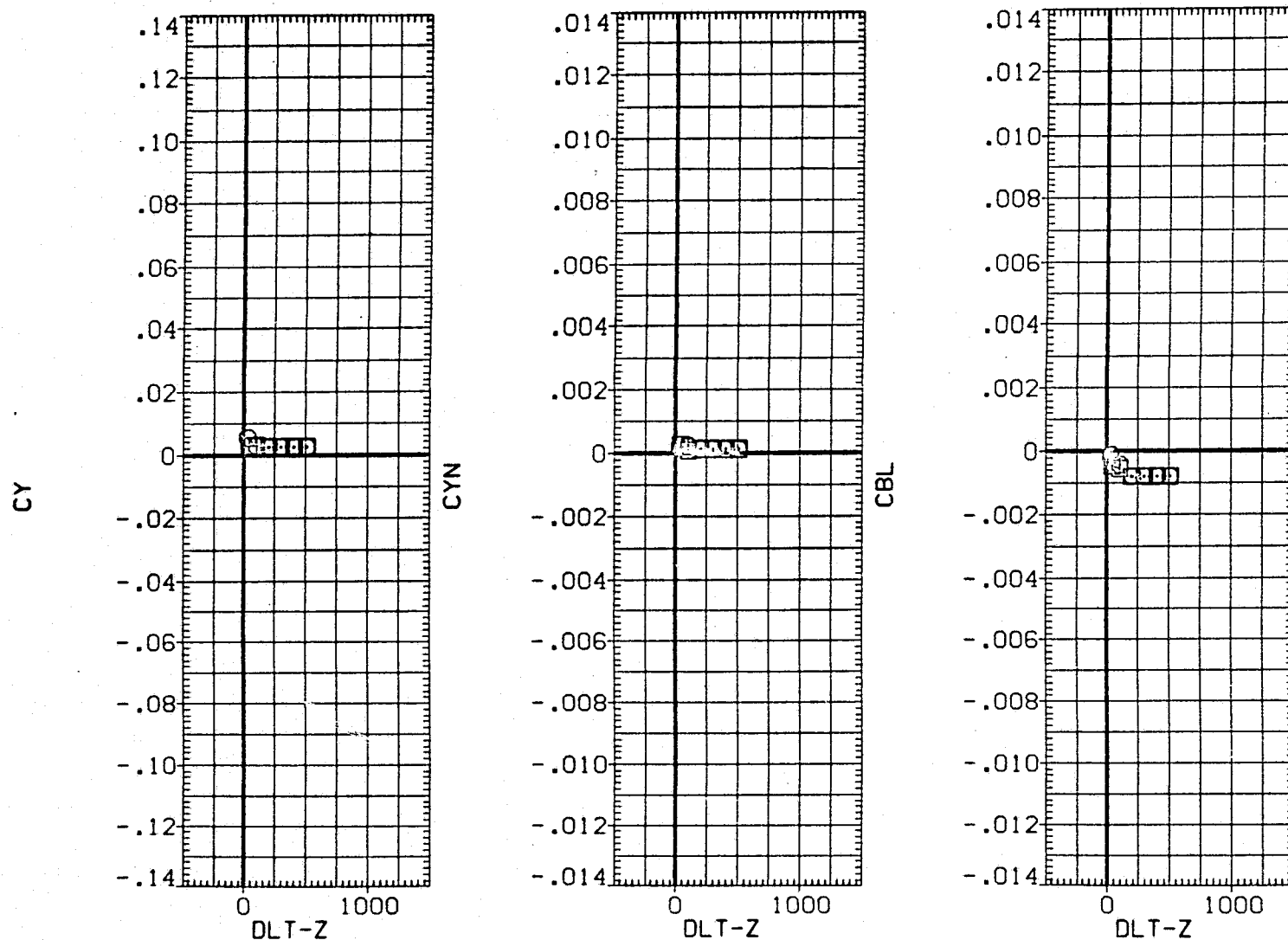


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR047)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.577	.000	ALPHA -10.000
□	400.480	.000	DLTALF -10.000
		.000	MACH 5.930
		.000	ELEVON -20.000
		10.000	

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

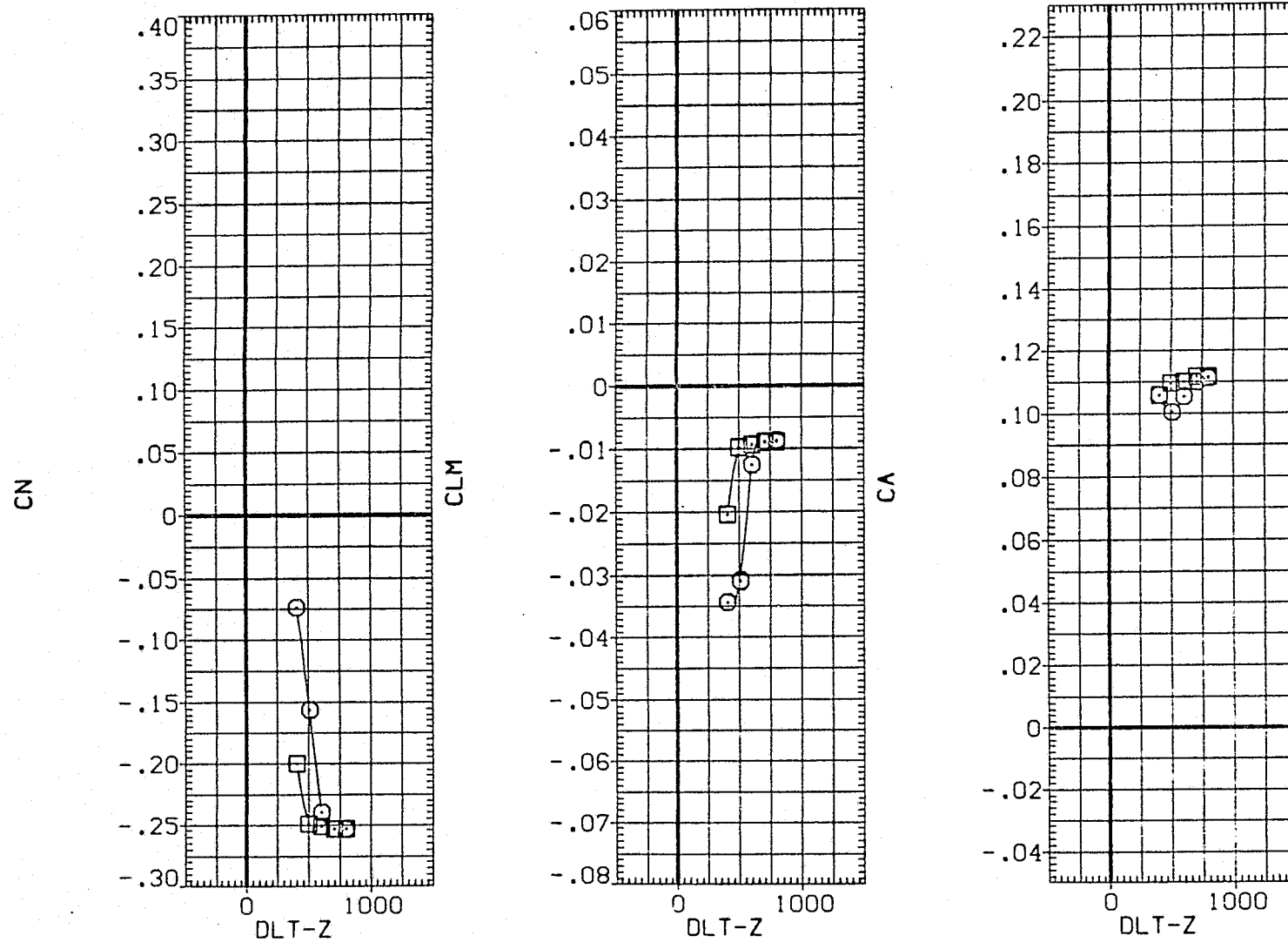


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR047)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-X	DLT-Y	ALPHA	
○	.577	.000	-10.000	
□	400.480	BETA	.000	DLTALF -10.000
		DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON -20.000
		GRID	10.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

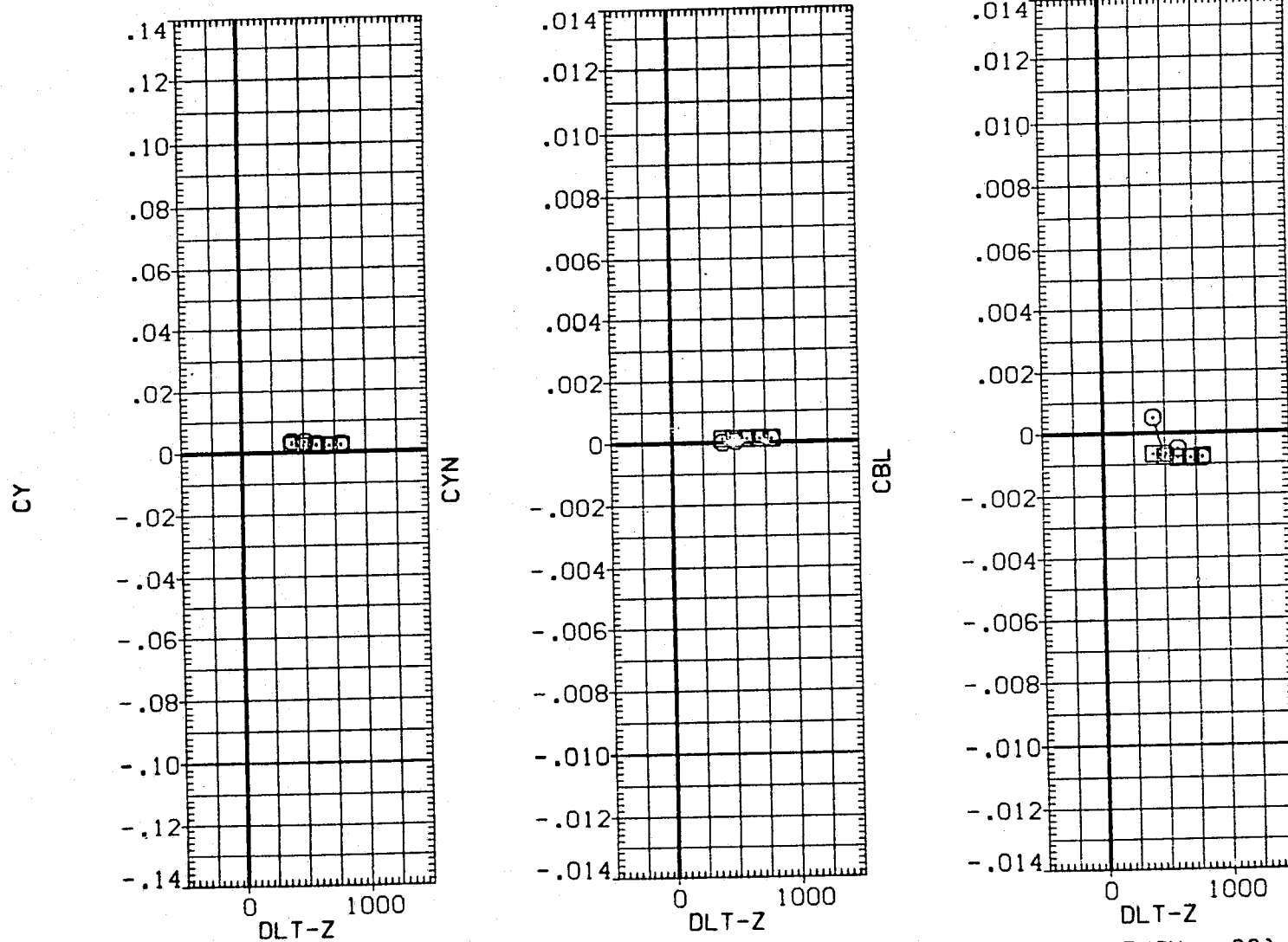


FIGURE 6 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR066)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.391		.000	.000	5.930	-40.000
□	400.490		.000	.000		
		DLTBT	.000			
		AILRON	.000			
		GRID	13.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

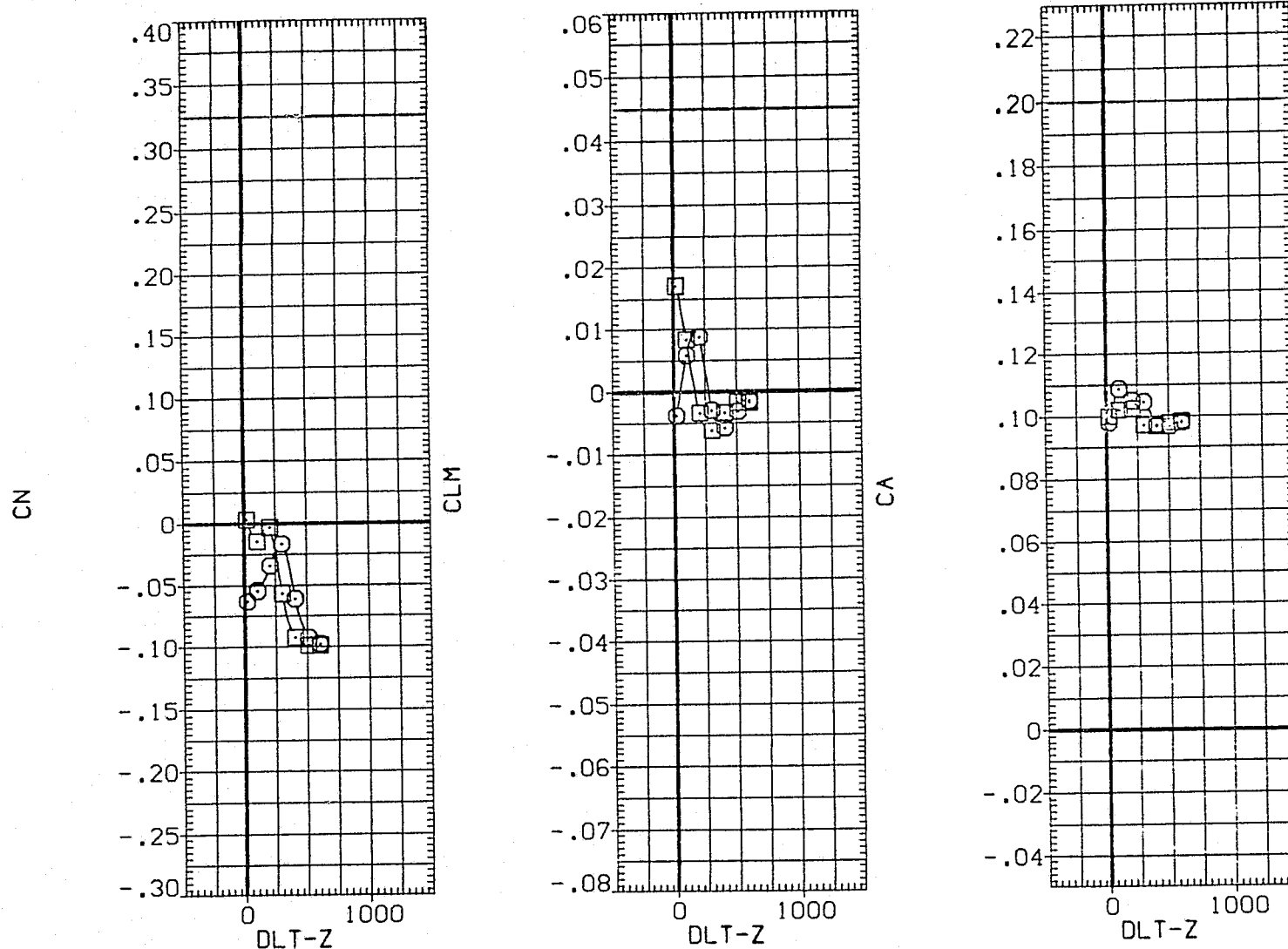


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR066)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.391	.000	BETA	.000	.000
□	400.490	.000	DLTBTA	.000	.000
		.000	AILRON	.000	5.930
		13.000	ELEVON	-40.000	
			GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

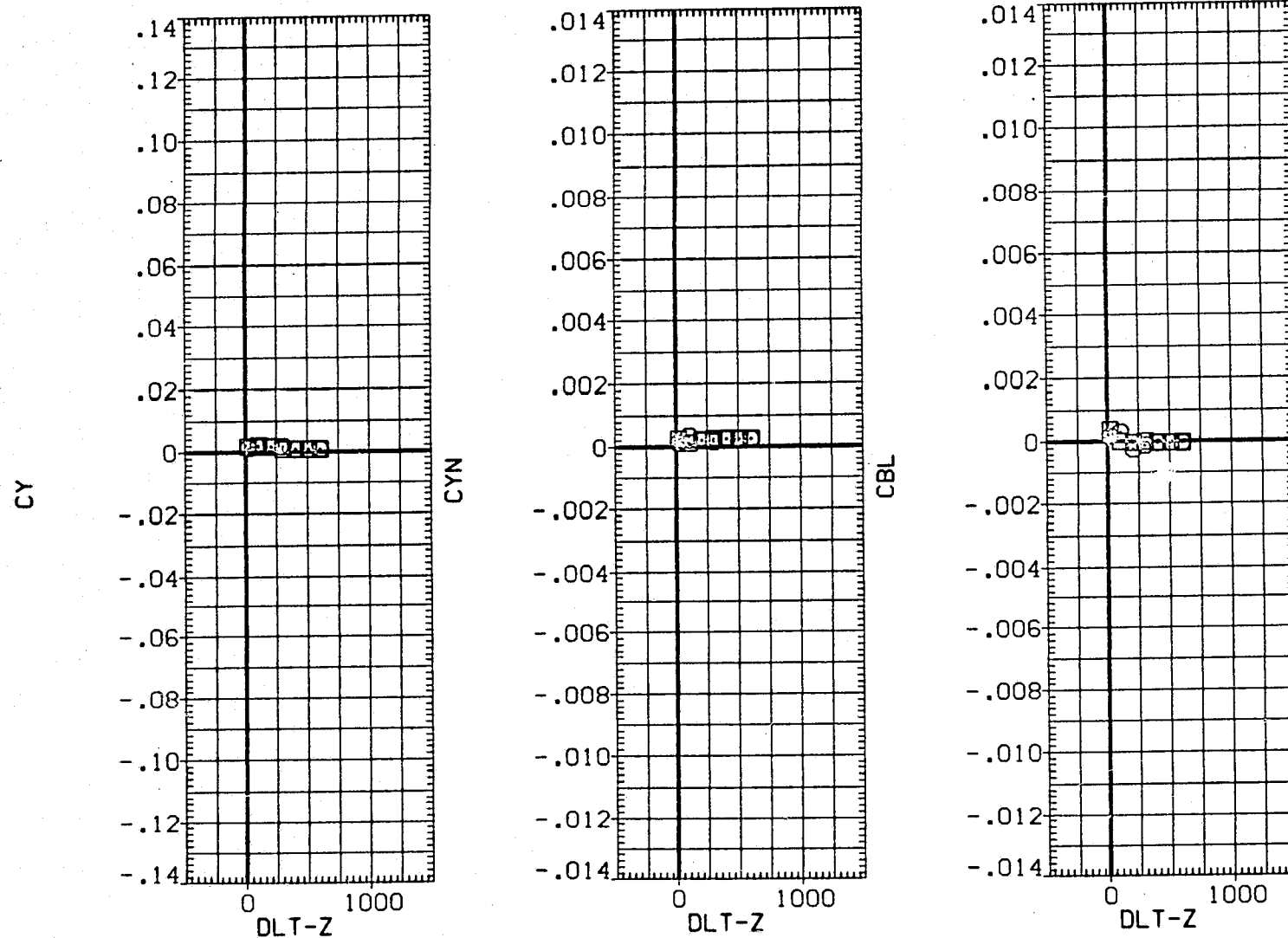


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR067)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.550	.000	ALPHA	.000
□	400.450	.000	DLTALF	-10.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		.000		
		GRID	13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

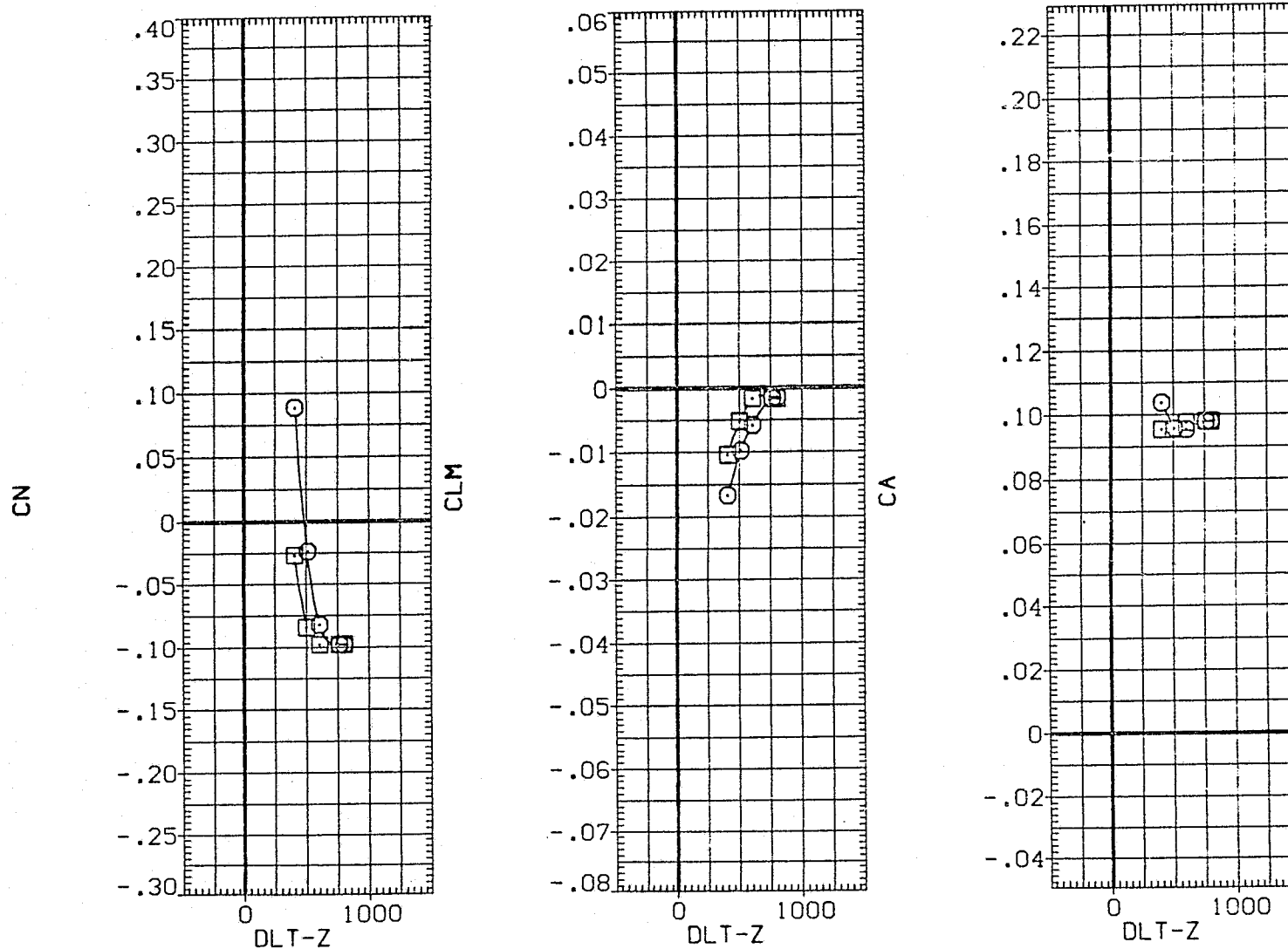


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR067)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.550	.000	BETA	.000	DLTALF
□	400.450	.000	DLTBTA	.000	MACH
		.000	AILRON	.000	ELEVON
		13.000	GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

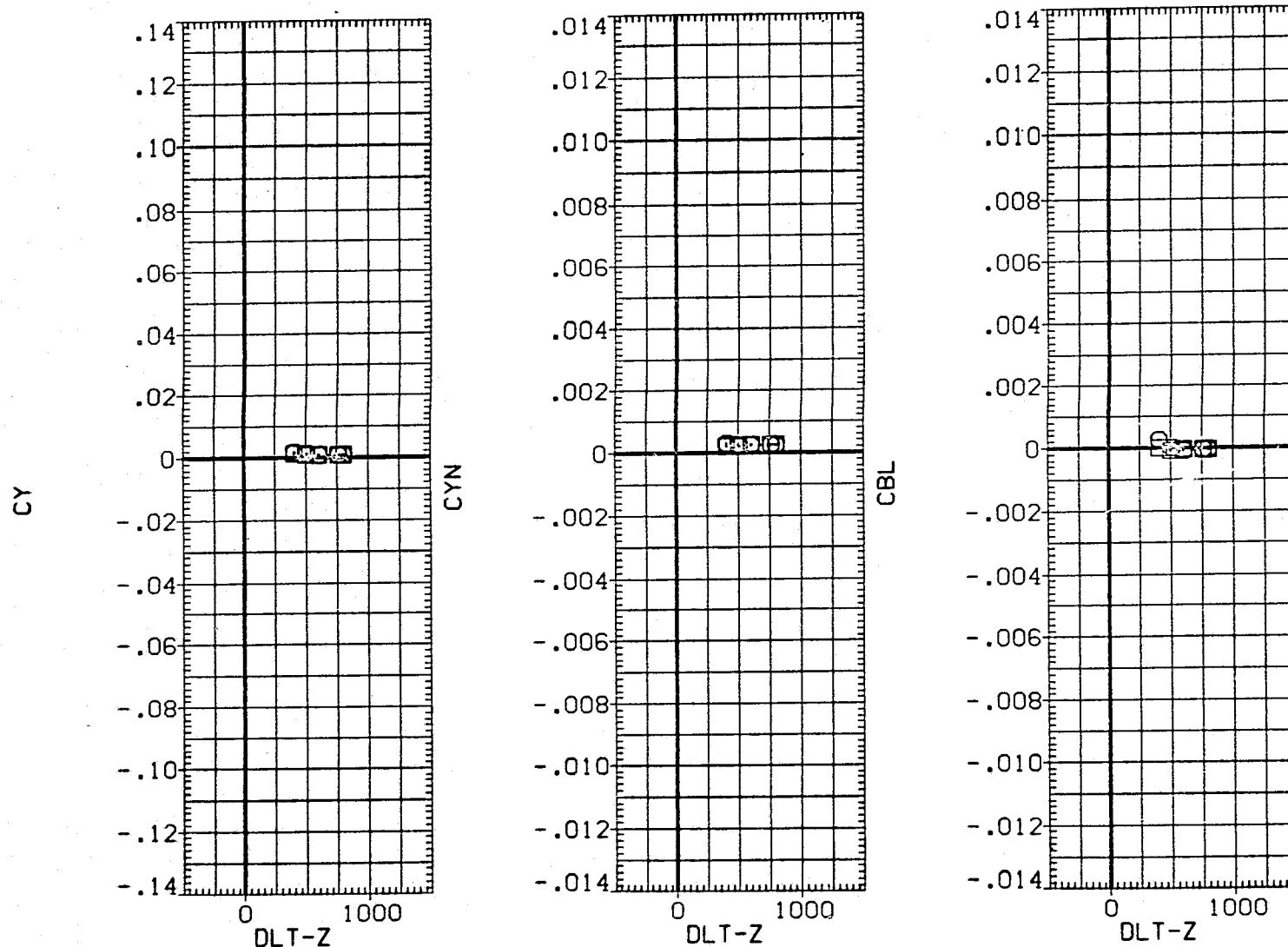


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR069)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.440	BETA	.000	ALPHA
□	400.330	DLTBTB	.000	DLTALF
		AILRON	.000	MACH
		GRID	13.000	ELEVON
				-40.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

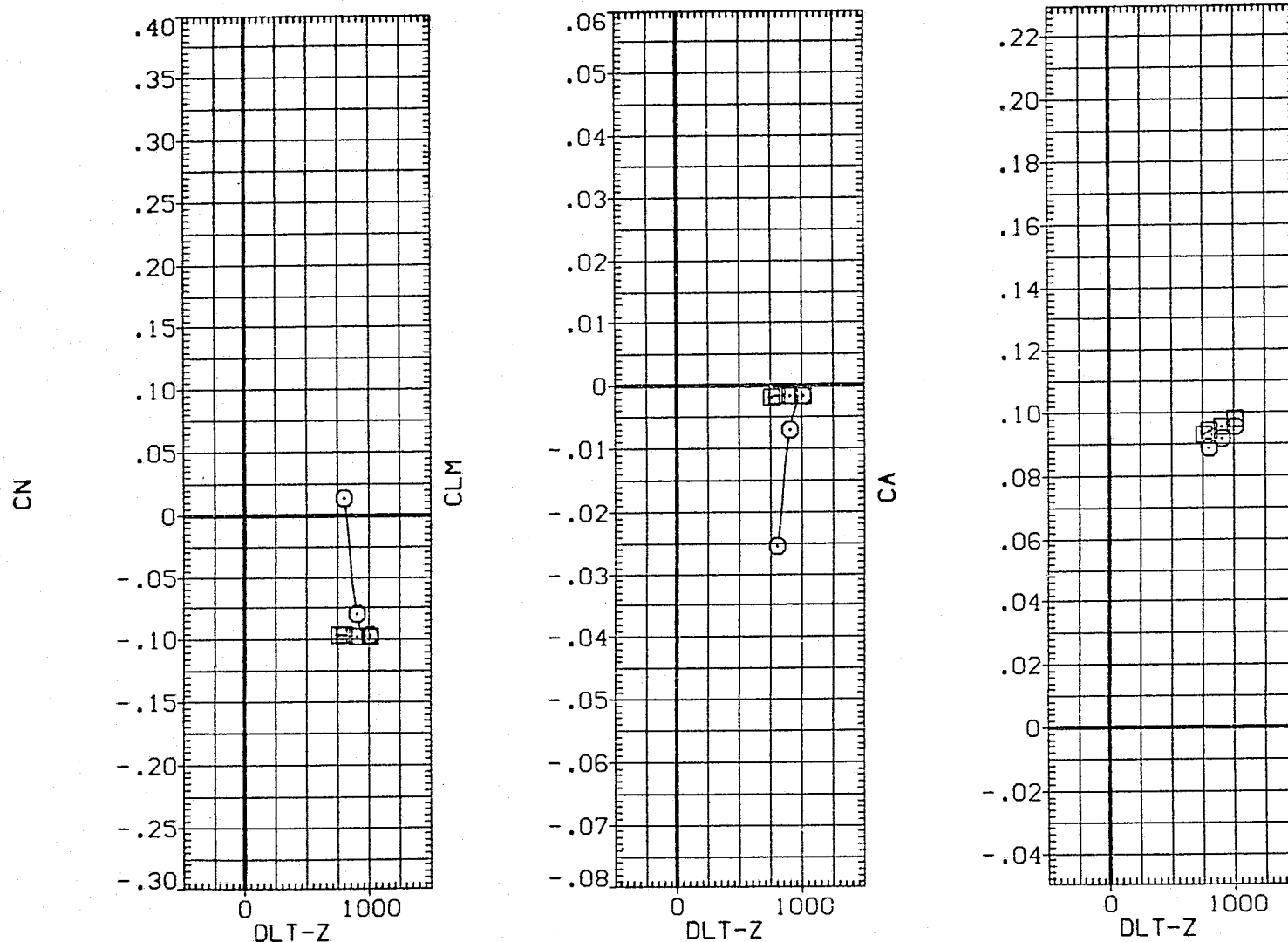


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB_DATA)(RTR069)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.440	.000	BETA	.000	DLTALF
□	400.330	.000	DLTBTA	.000	MACH
		.000	AILRON	.000	ELEVON
		13.000	GRID		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

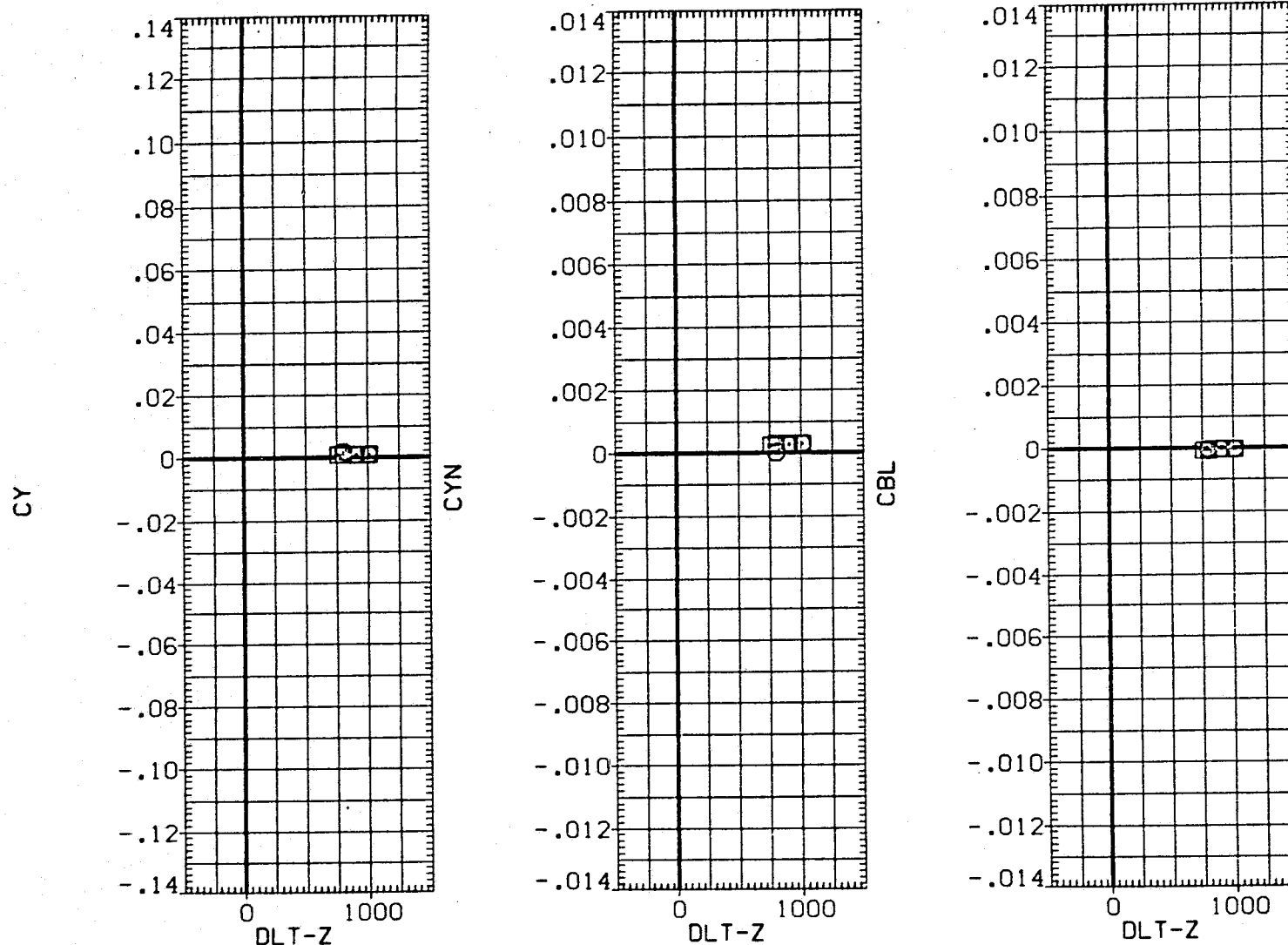


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR063)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.573	BETA	.000	.000	
		DLTBTA	3.000	.000	
		AILRON	.000	5.930	
		GRID	.000	ELEVON	-40.000
			14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

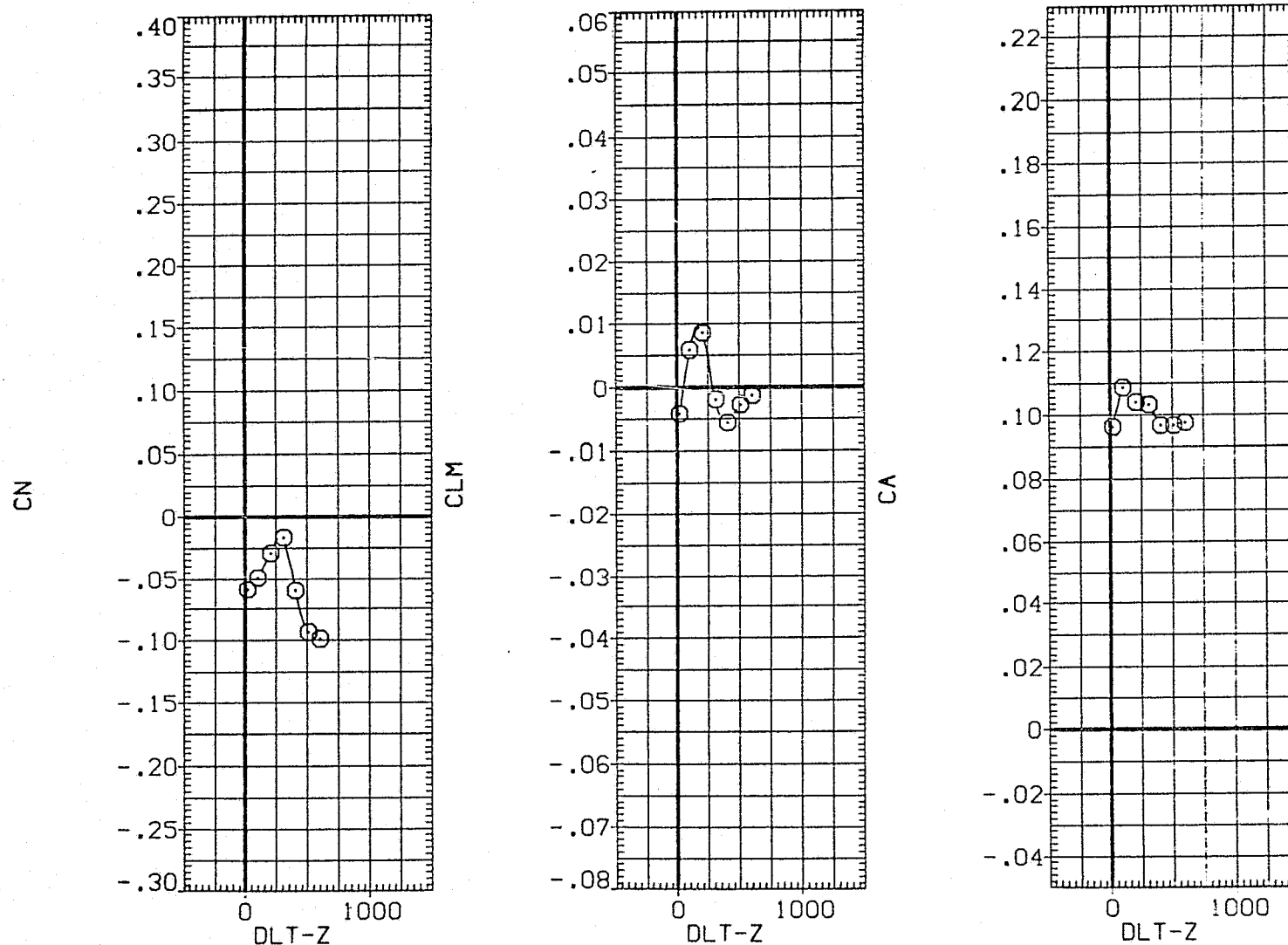


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR063)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBTA	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.573	.000	3.000	.000	.000	14.000		.000	.000	5.930	-40.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

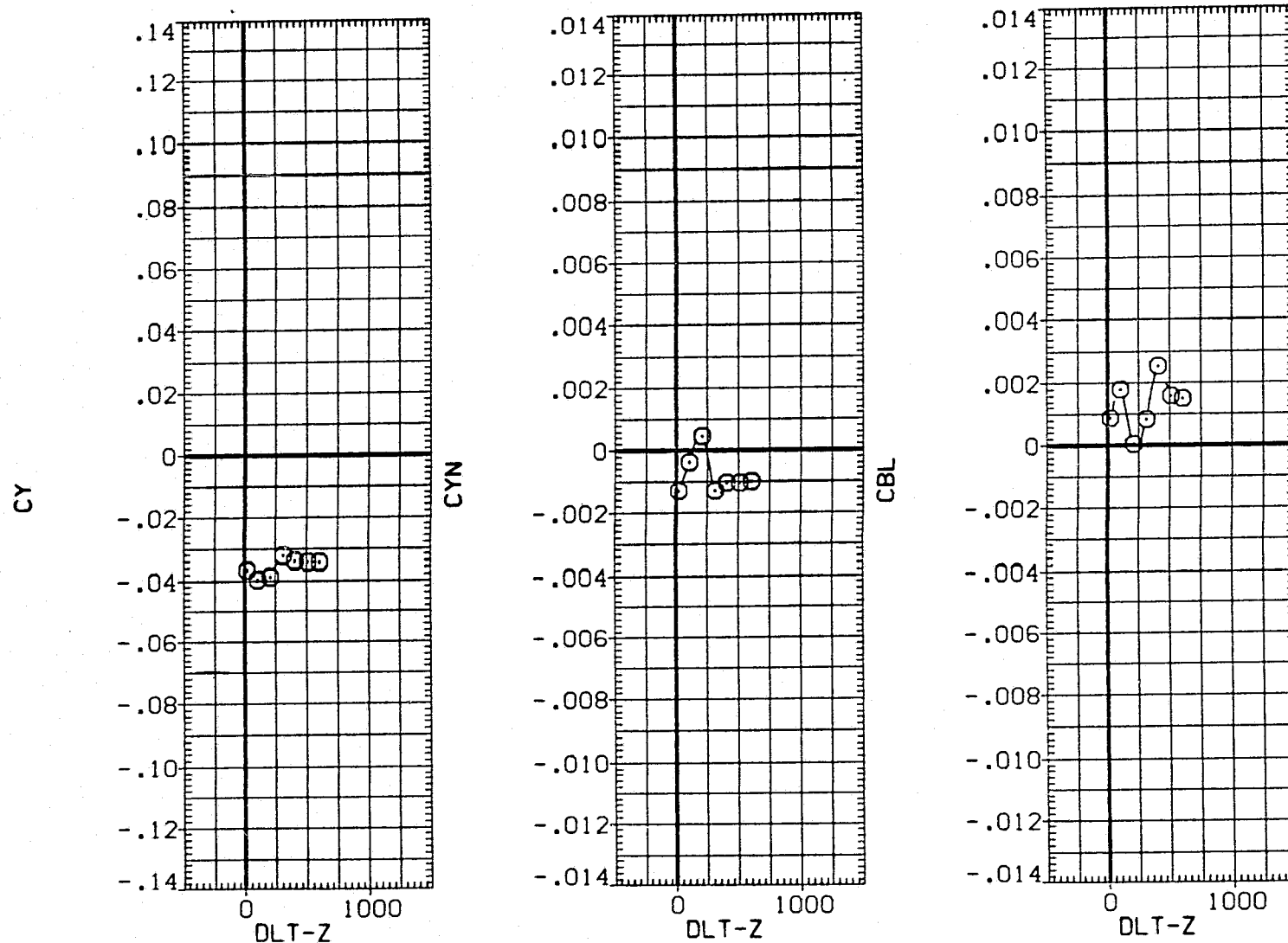


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR064)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.552	DLT-Y .000	ALPHA .000
		BETA 3.000	DLTALF -10.000
		DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON -40.000
		GRID 14.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

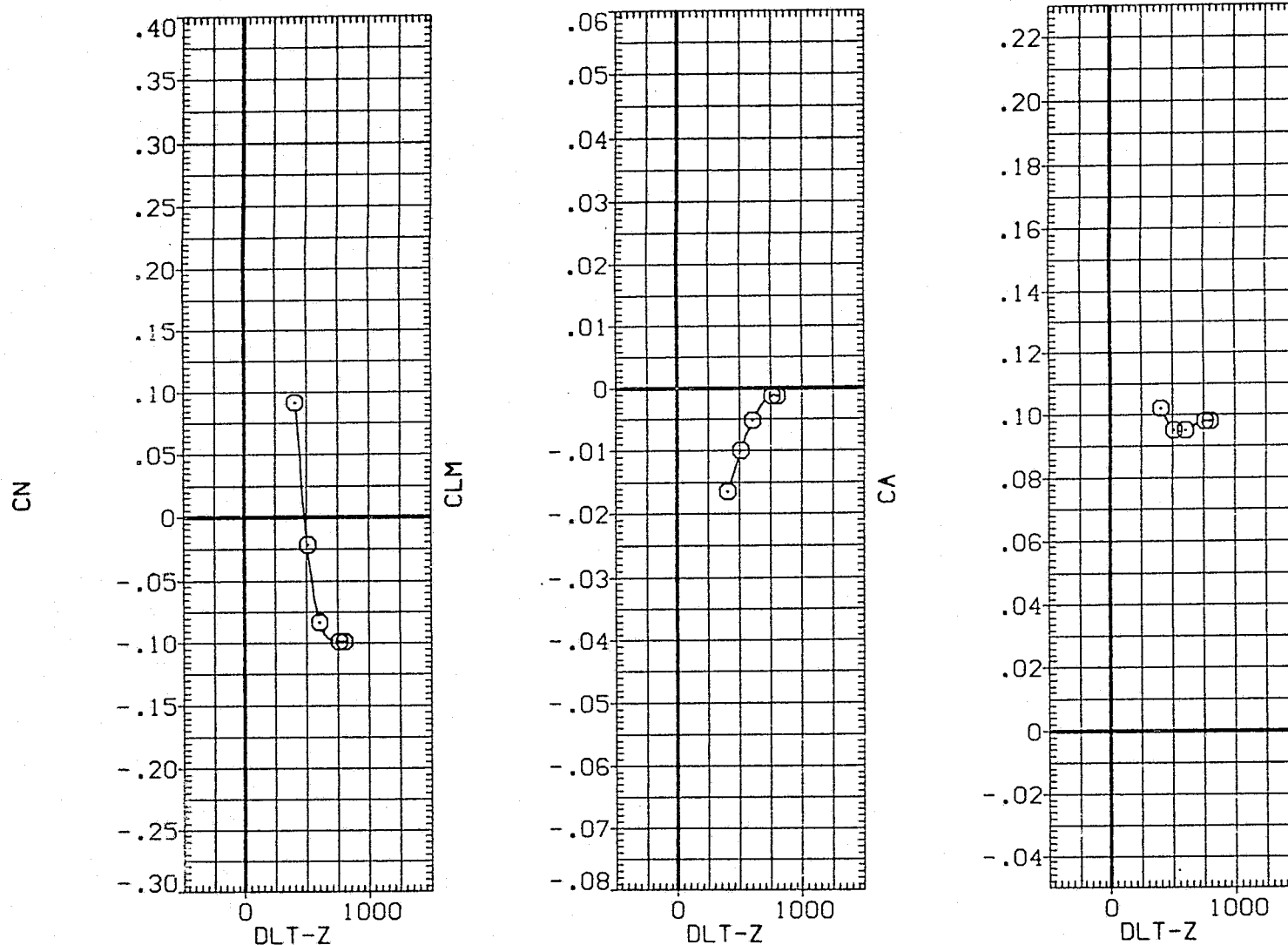


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR064)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.552	.000	BETA	.000
			DLTBTA	3.000
			AILRON	.000
			GRID	14.000
			MACH	5.930
			ELEVON	-40.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

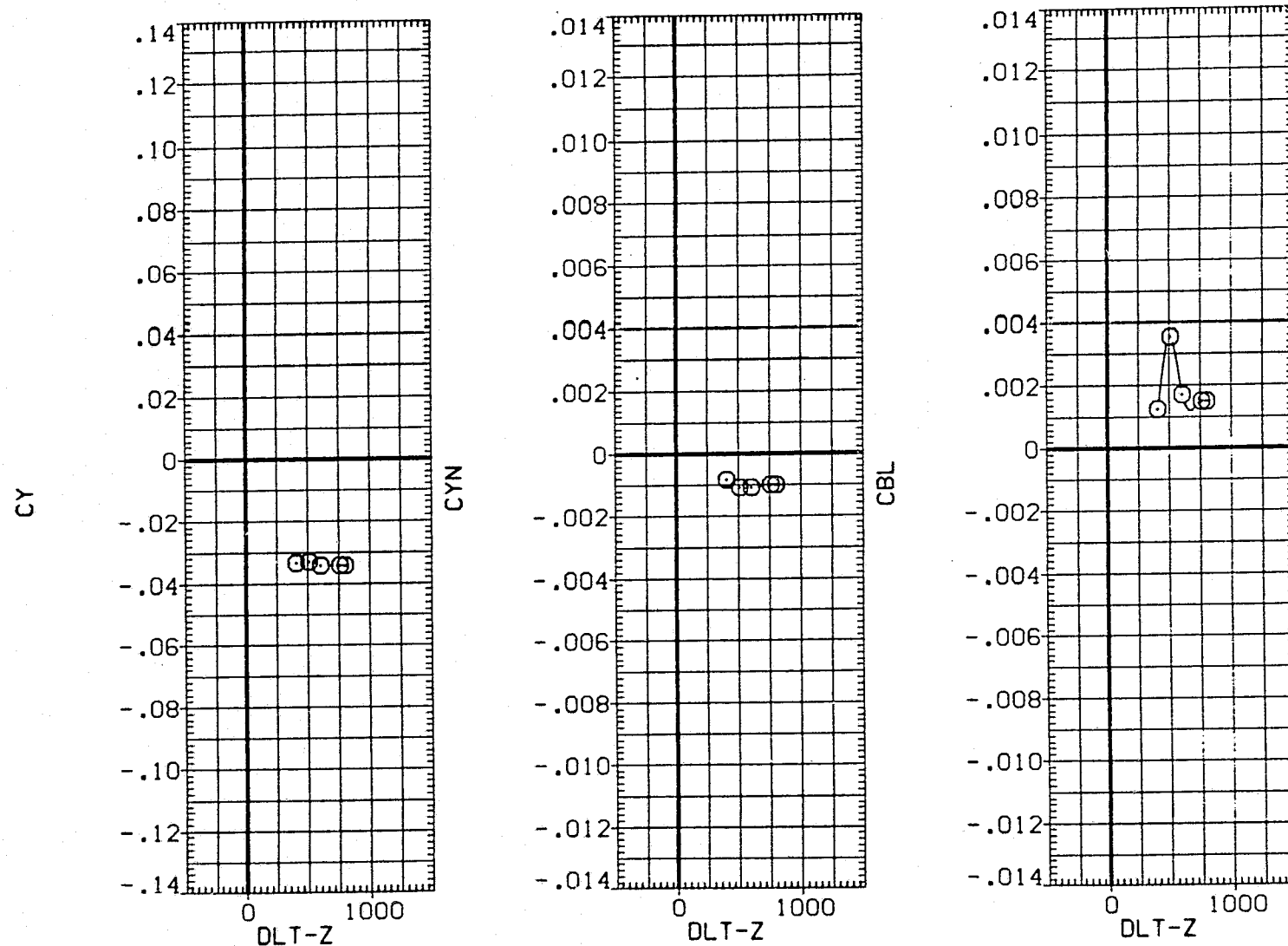


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR065)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.524	DLT-Y .000	ALPHA .000
		BETA 3.000	DLTALF -20.000
		DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON -40.000
		GRID 14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

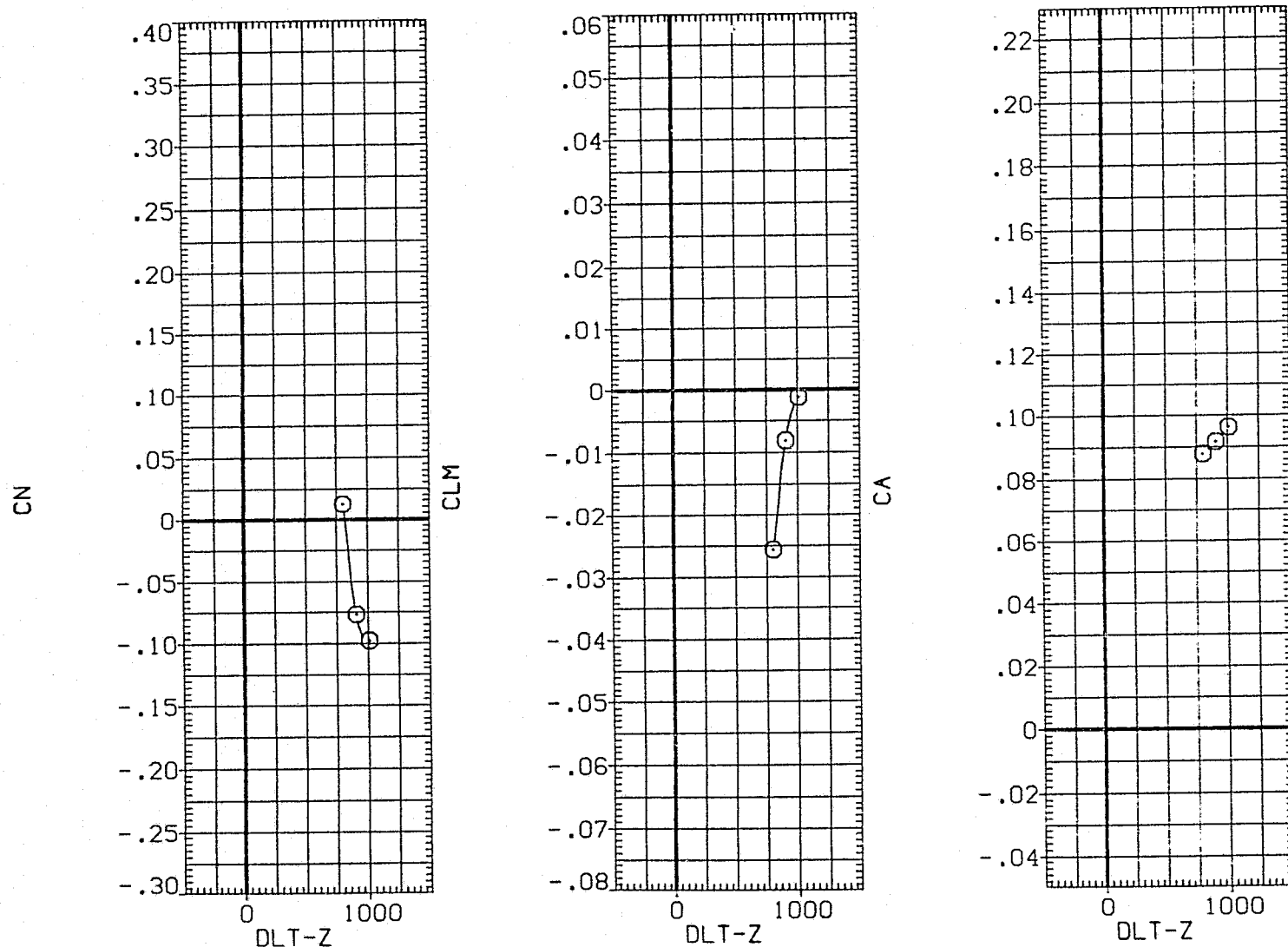


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR065)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.524	.000	BETA	.000
		3.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		14.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

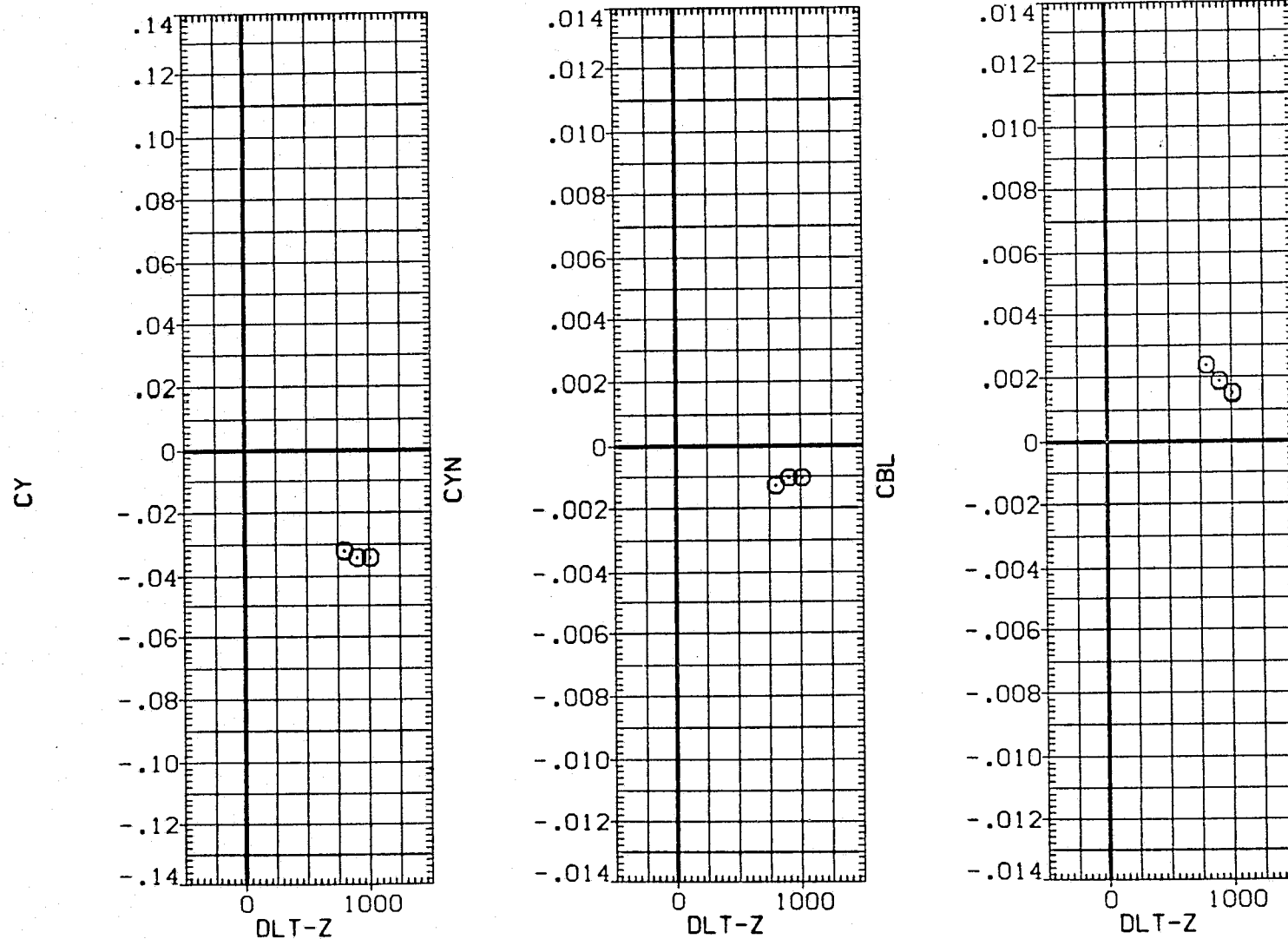


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR070)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.555	.000	ALPHA	5.000
□	400.470	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		GRID	12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

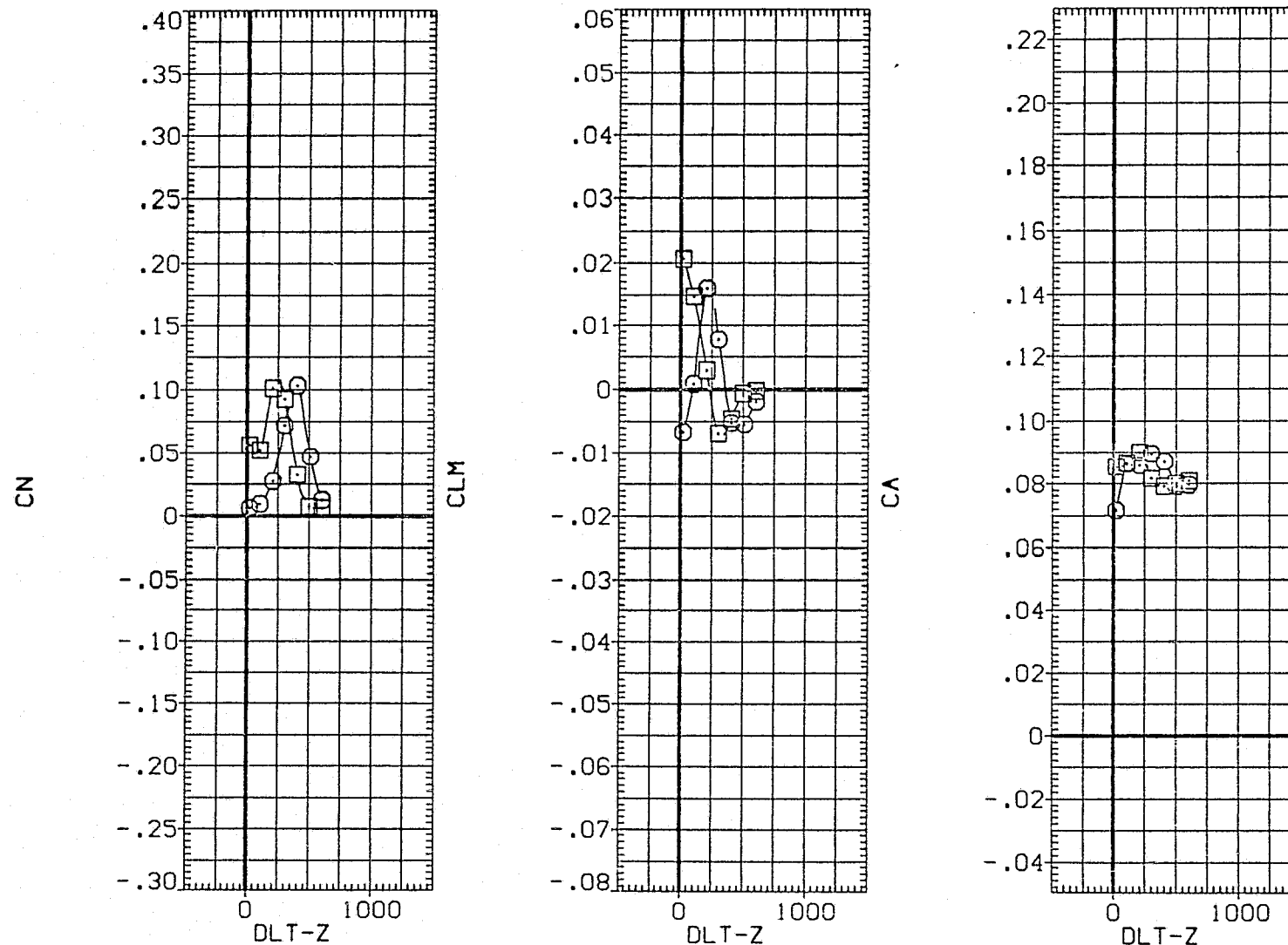


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR070)

SYMBOL



DLT-X
.555
400.470

DLT-Y
BETA
DLTBTA
ATLRON
GRID

PARAMETRIC VALUES

.000 ALPHA 5.000
.000 DLTALF .000
.000 MACH 5.930
.000 ELEVON -40.000
12.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

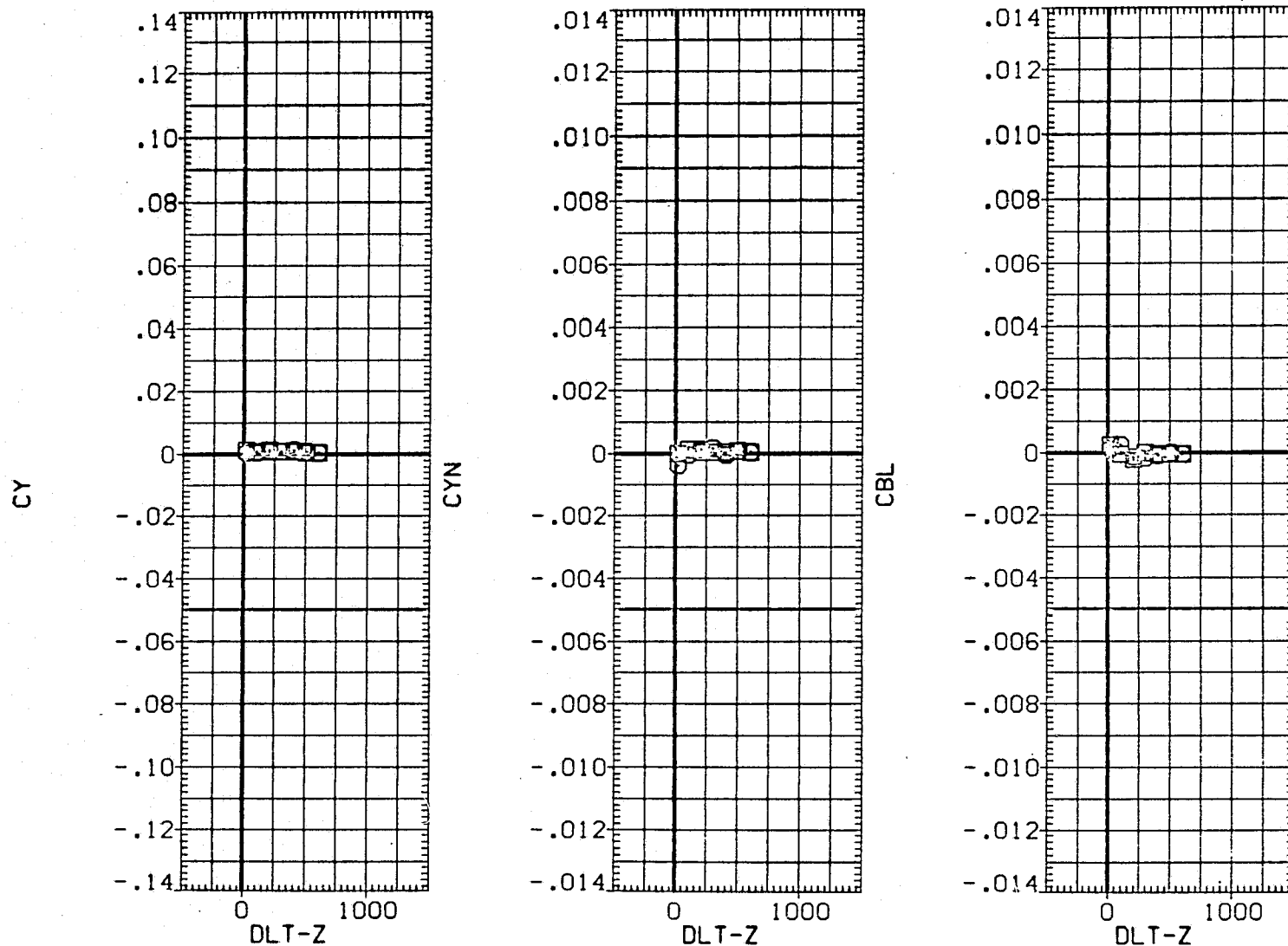


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR071)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.505	.000	ALPHA	5.000
□	400.460	.000	DLTALF	-10.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		GRID	12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

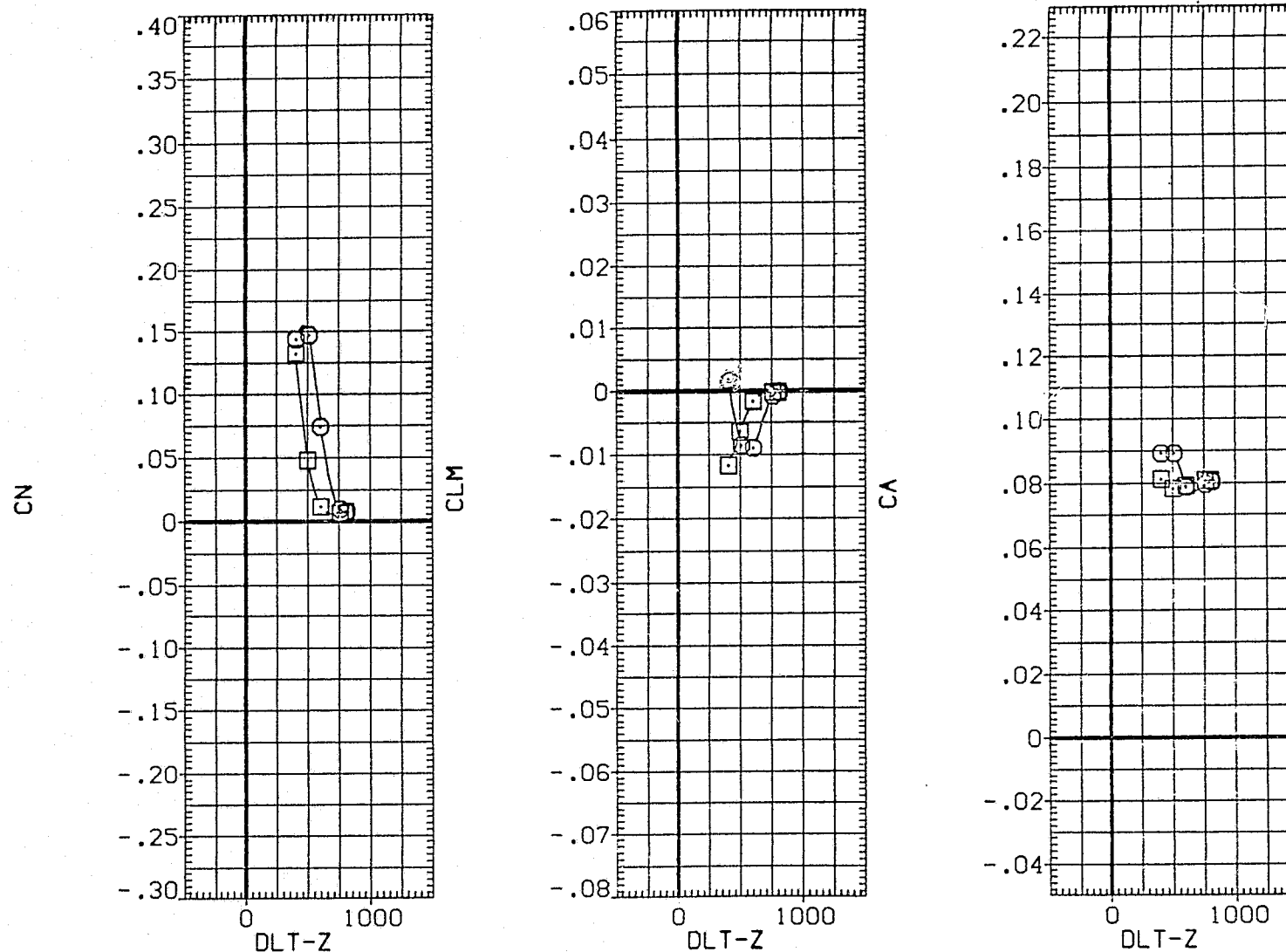


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR071)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.505	.000	DLTALF	5.000	
□	400.460	.000	MACH	-10.000	
		.000	ELEVON	5.930	
		.000		-40.000	
		GRID	12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

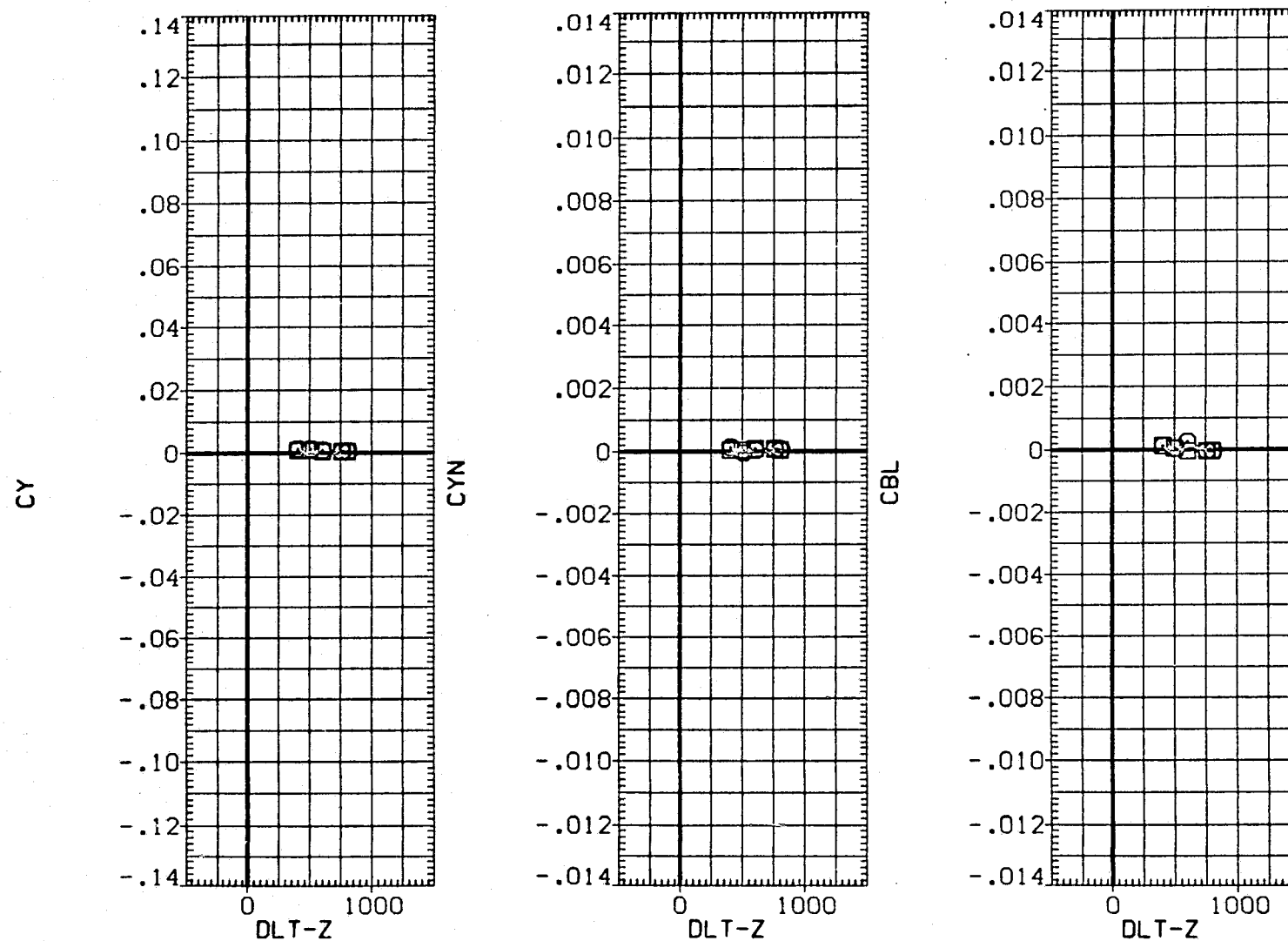


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR073)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.391	.000	ALPHA	5.000
□	400.570	.000	DLTALF	-20.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		12.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

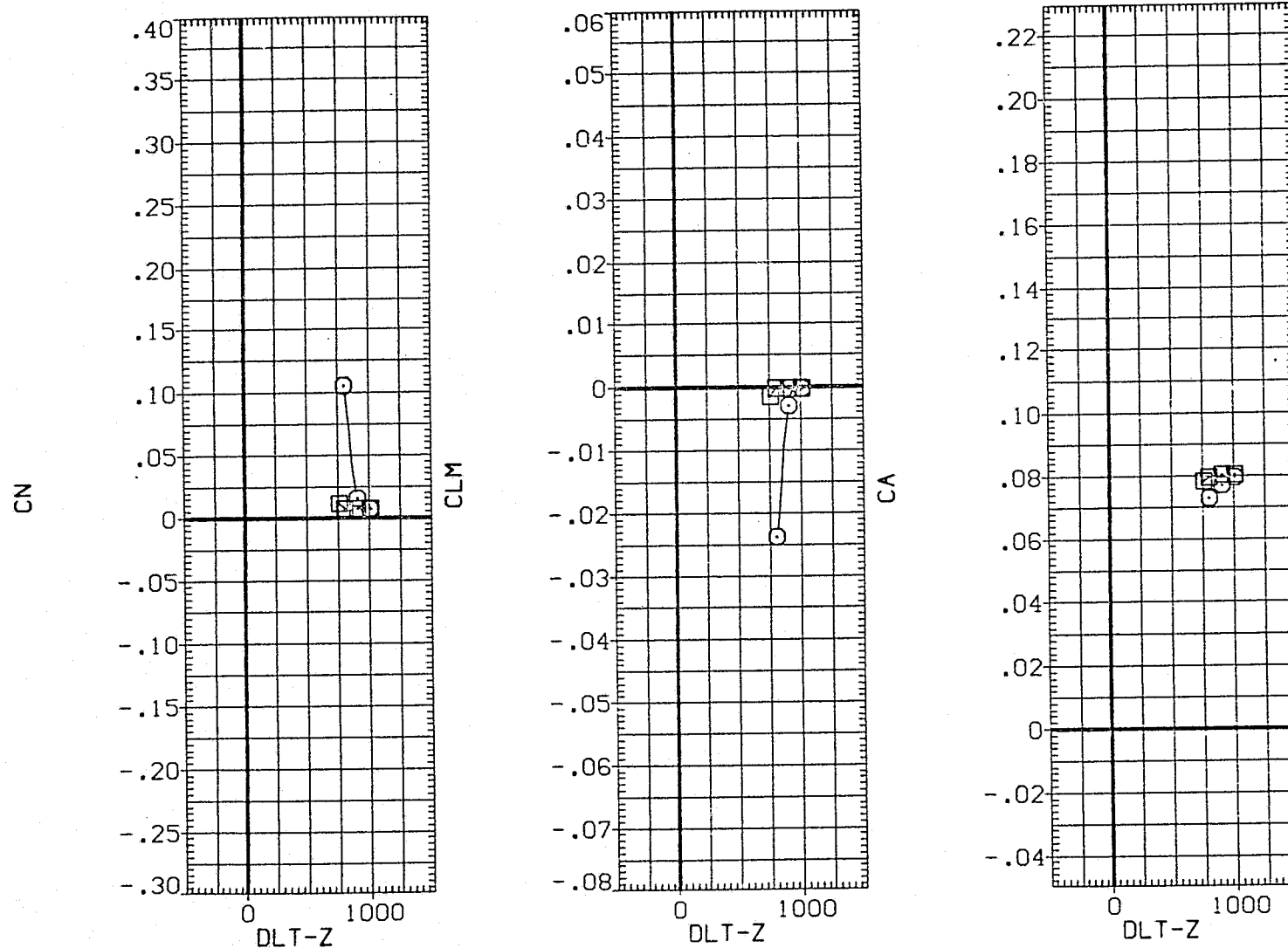


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR073)

SYMBOL



DLT-X

.391

400.570

DLT-Y

BETA

DLTBTA

AILRON

GRID

PARAMETRIC VALUES

.000

.000

.000

.000

12.000

ALPHA

DLTALF

MACH

ELEVON

5.000

-20.000

5.930

-40.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 1089.6000 IN. X0

YMRP .0000 IN. Y0

ZMRP 375.0000 IN. Z0

SCALE .0100

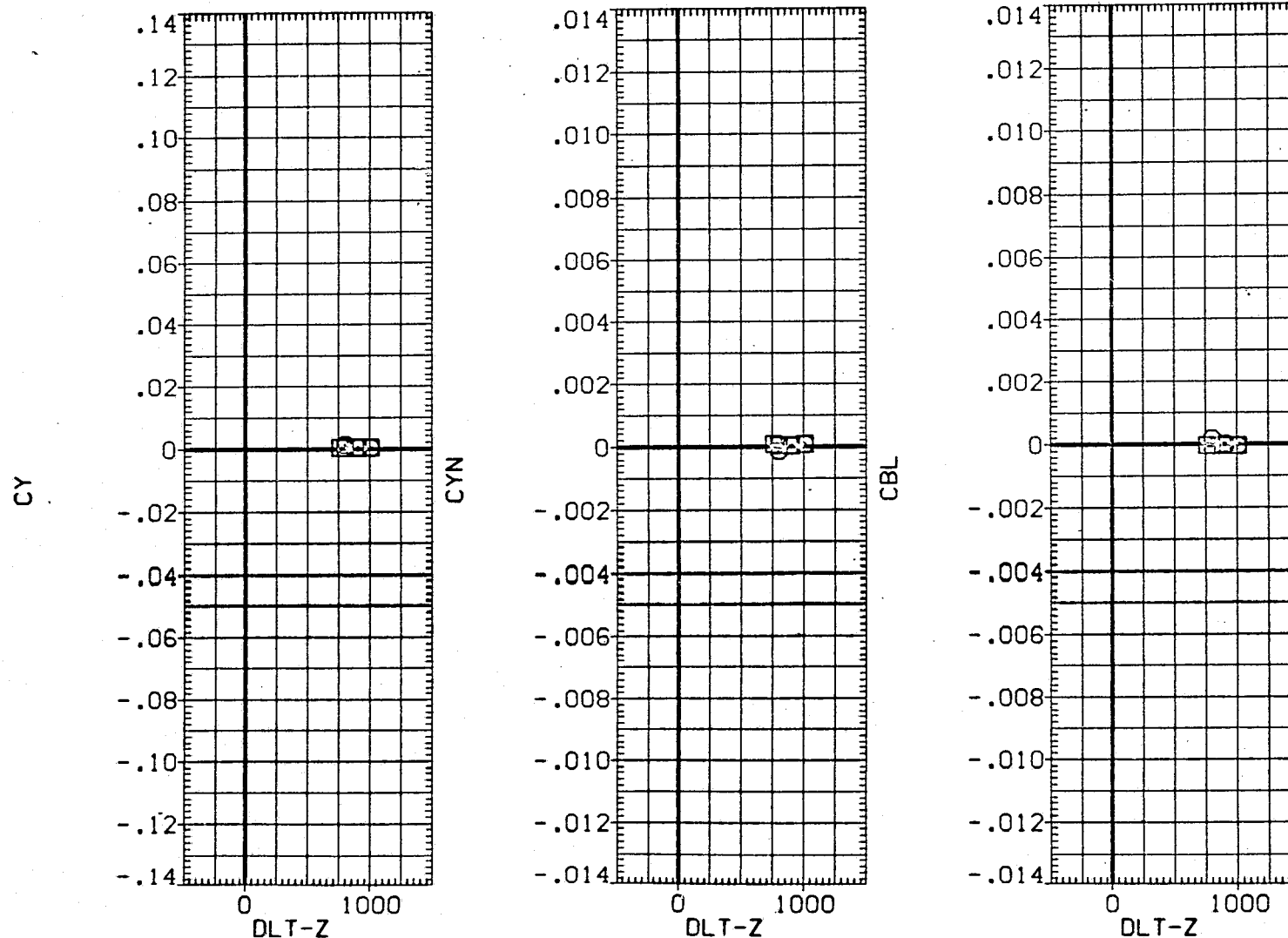


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR074)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	.000	ALPHA	-5.000
	.531	BETA	.000	DLTALF	.000
□	400.470	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	-40.000
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

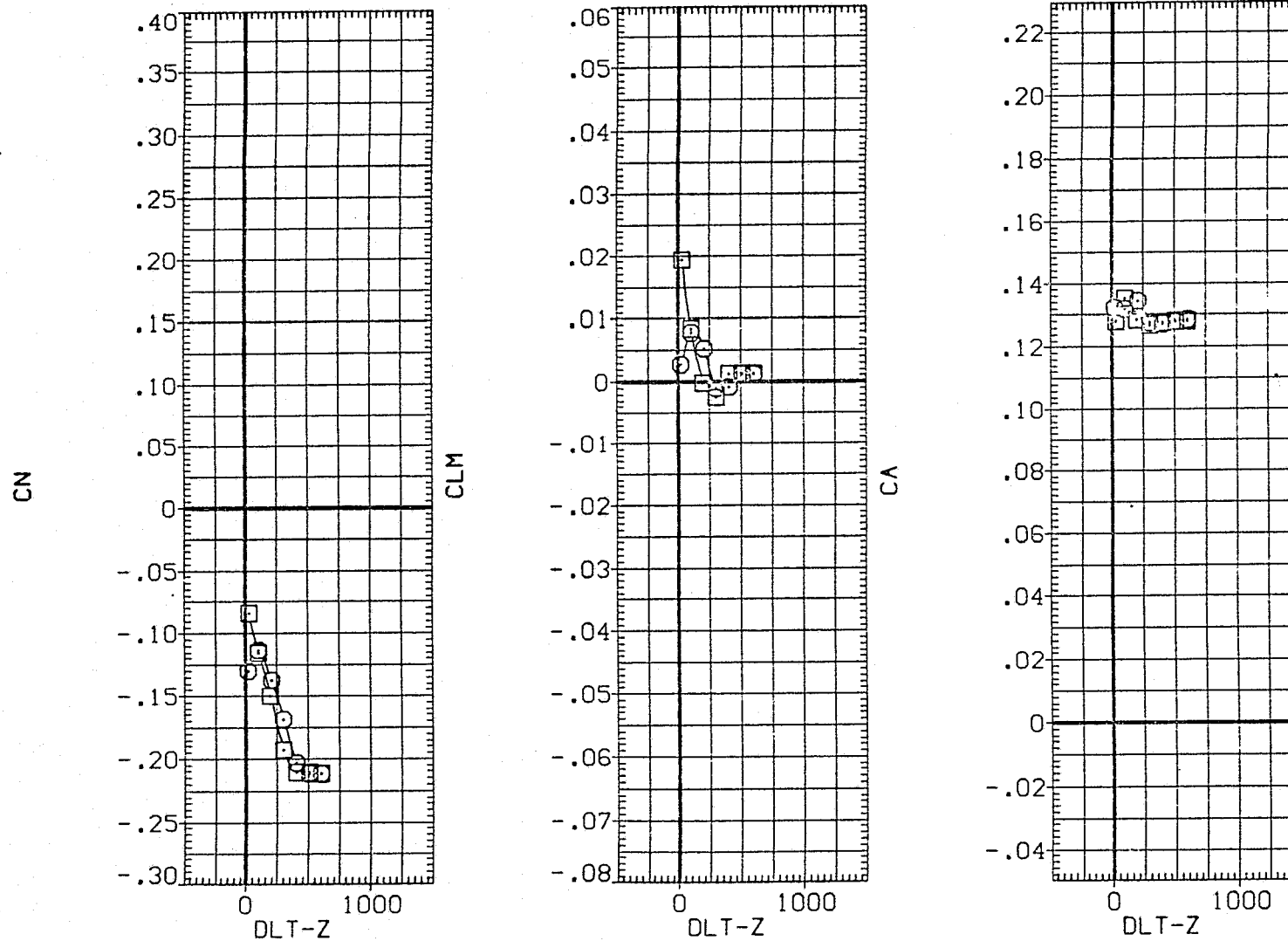


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR074)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.531	BETA	.000	ALPHA
□	400.470	DLT8TA	.000	DLTALF
		ATLRON	.000	MACH
		GRID	11.000	ELEVON
				-40.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.5000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

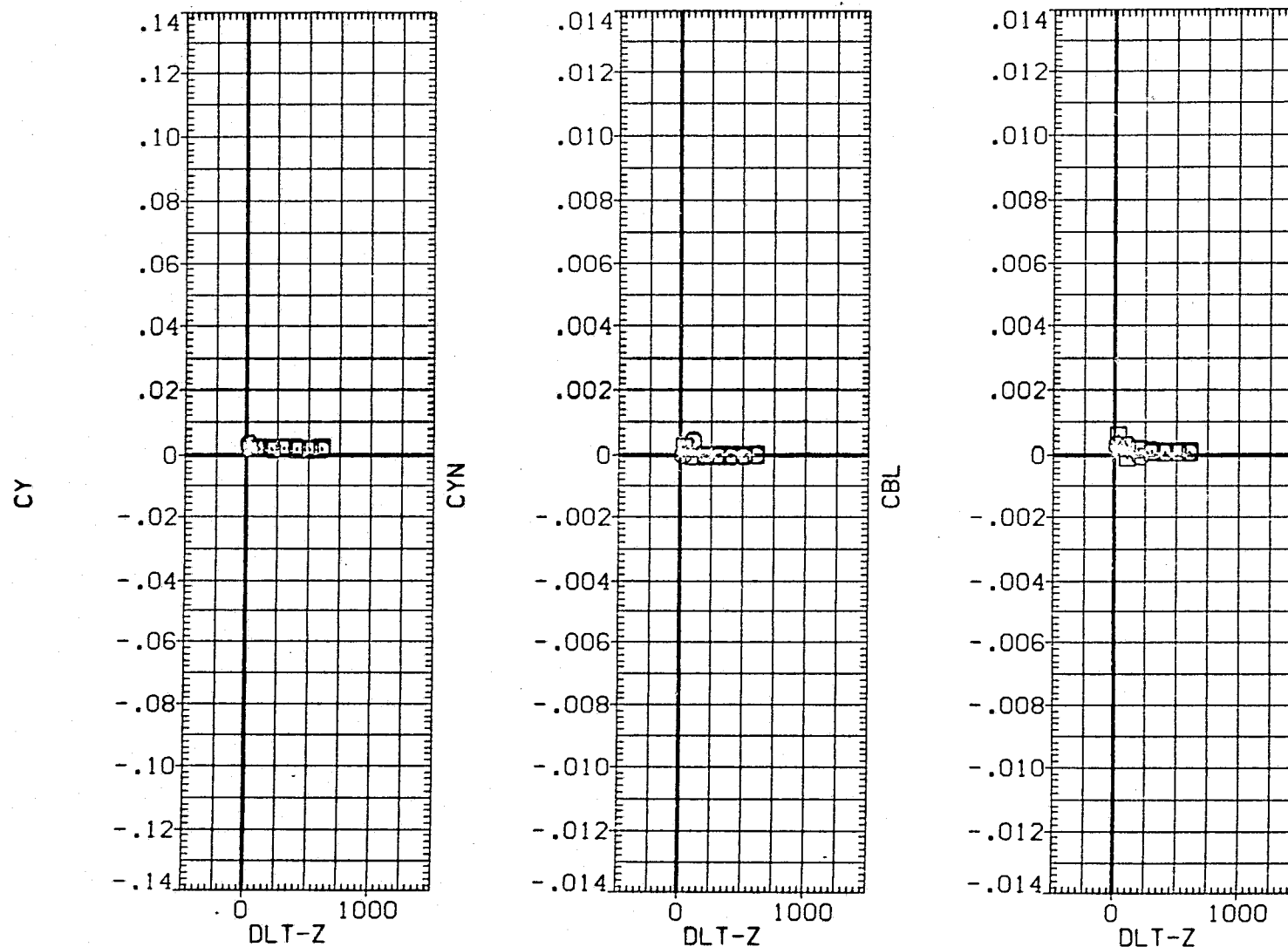


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR075)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.522	.000	ALPHA -5.000
□	400.530	.000	DLTALF -10.000
		.000	MACH 5.930
		.000	ELEVON -40.000
		11.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

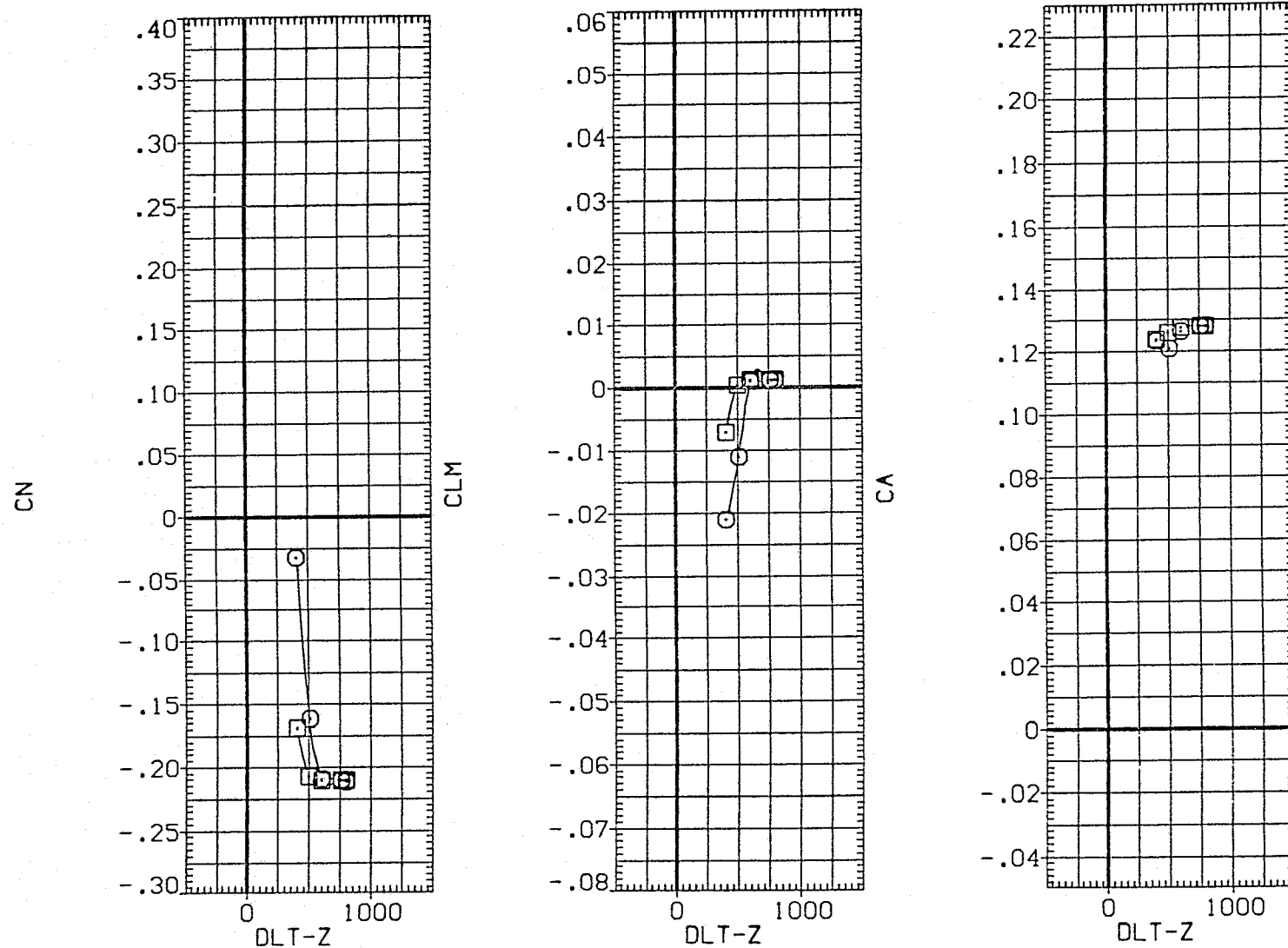


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR075)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.522	.000	ALPHA	-5.000
□	400.530	BETA	.000	DLTALF -10.000
		DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON -40.000
		GRID	11.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

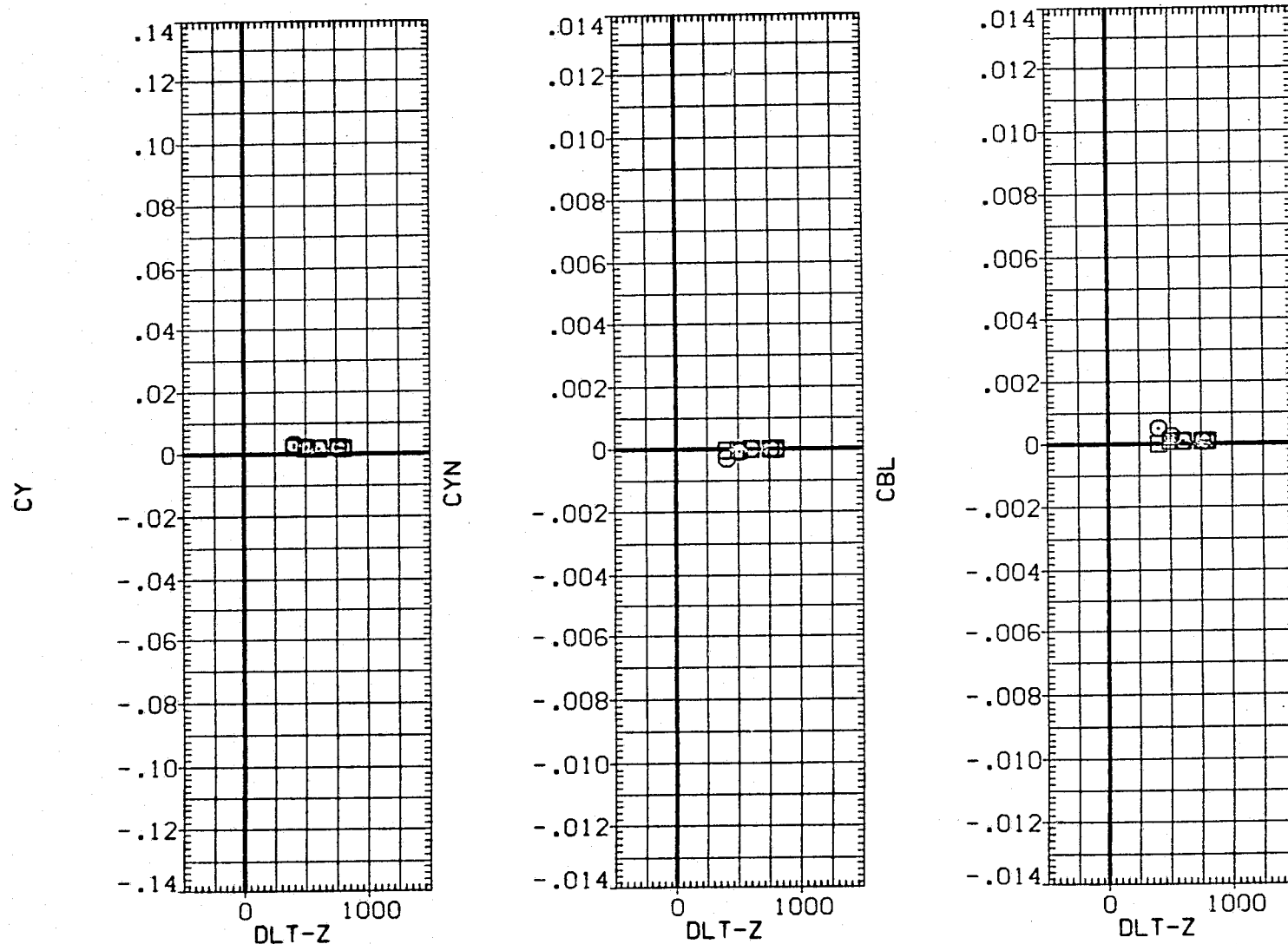


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR077)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.441		.000	-5.000		
□	400.420		.000	-20.000	5.930	-40.000
		DLTBTA	.000			
		AILRON	.000			
		GRID	11.000			

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZO
SCALE	.0100	

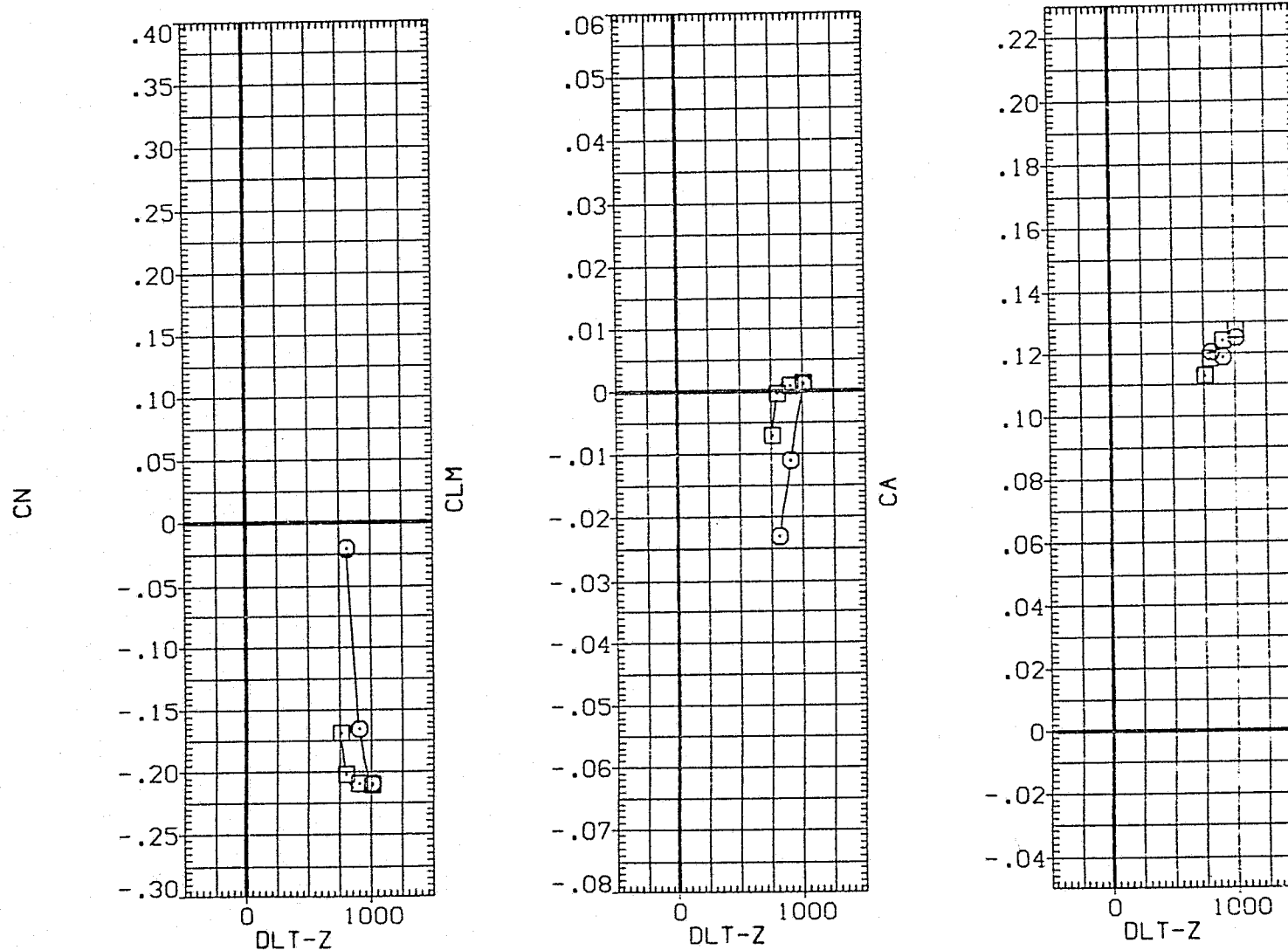


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR077)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	-5.000
○	.441	BETA	.000	DLTALF	-20.000
□	400.420	DLTBTA	.000	MACH	5.930
		ATLRON	.000	ELEVON	-40.000
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

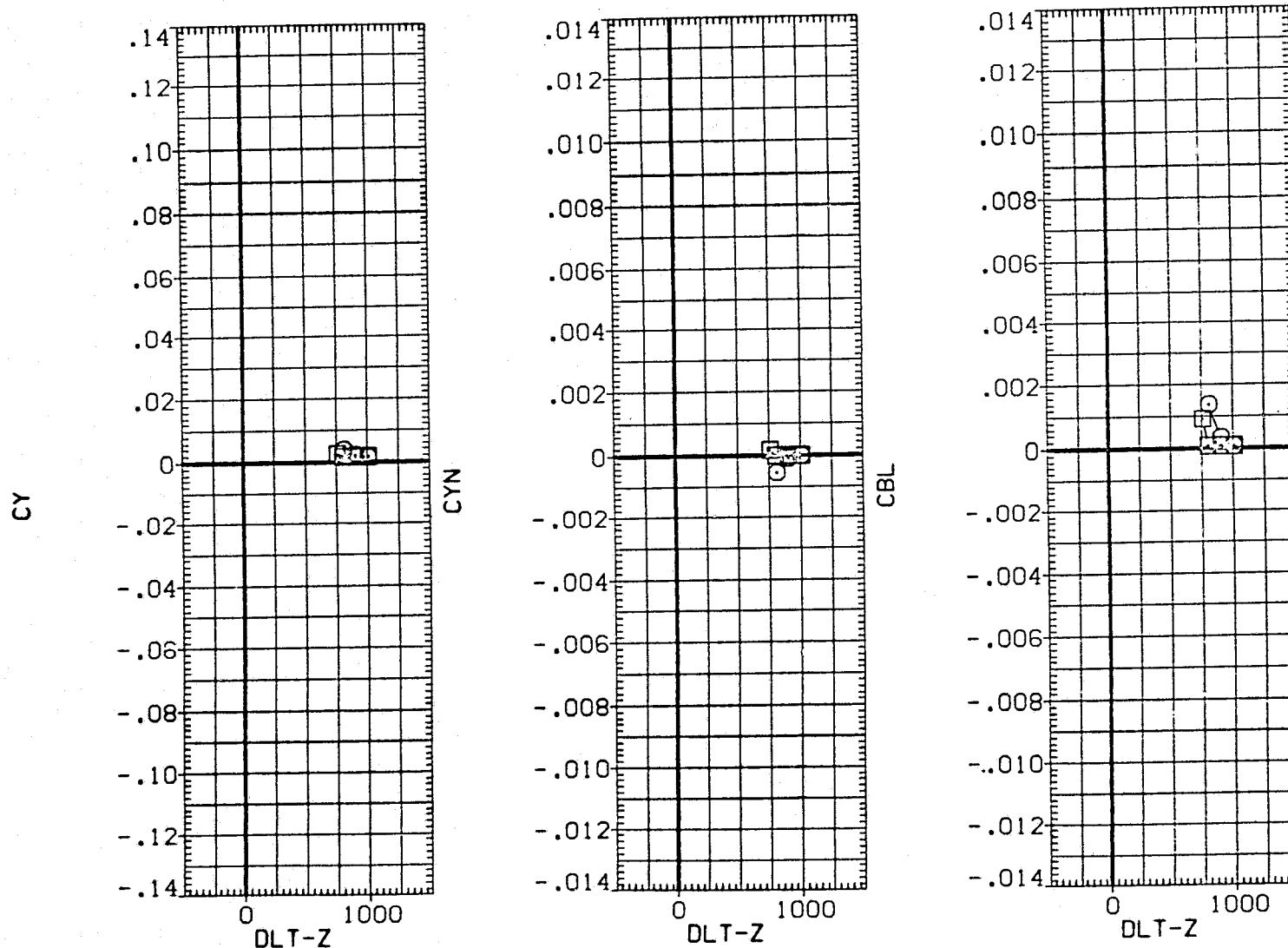


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR078)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.415	.000	ALPHA	-10.000
□	400.490	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		10.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

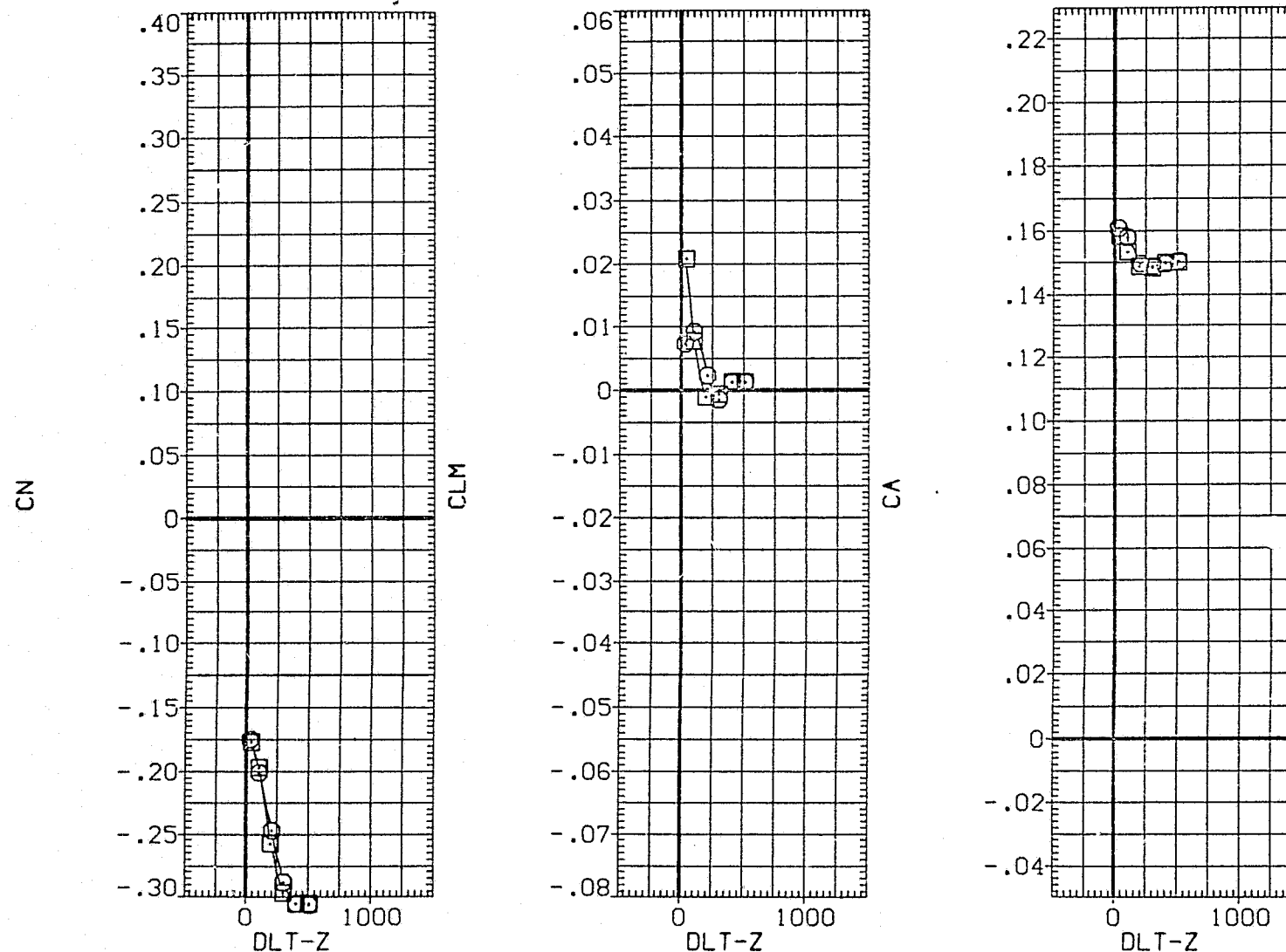


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR078)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.415	.000	ALPHA	-10.000
□	400.490	.000	DLTALF	.000
		.000	MACH	5.930
		.000	ELEVON	-40.000
		10.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

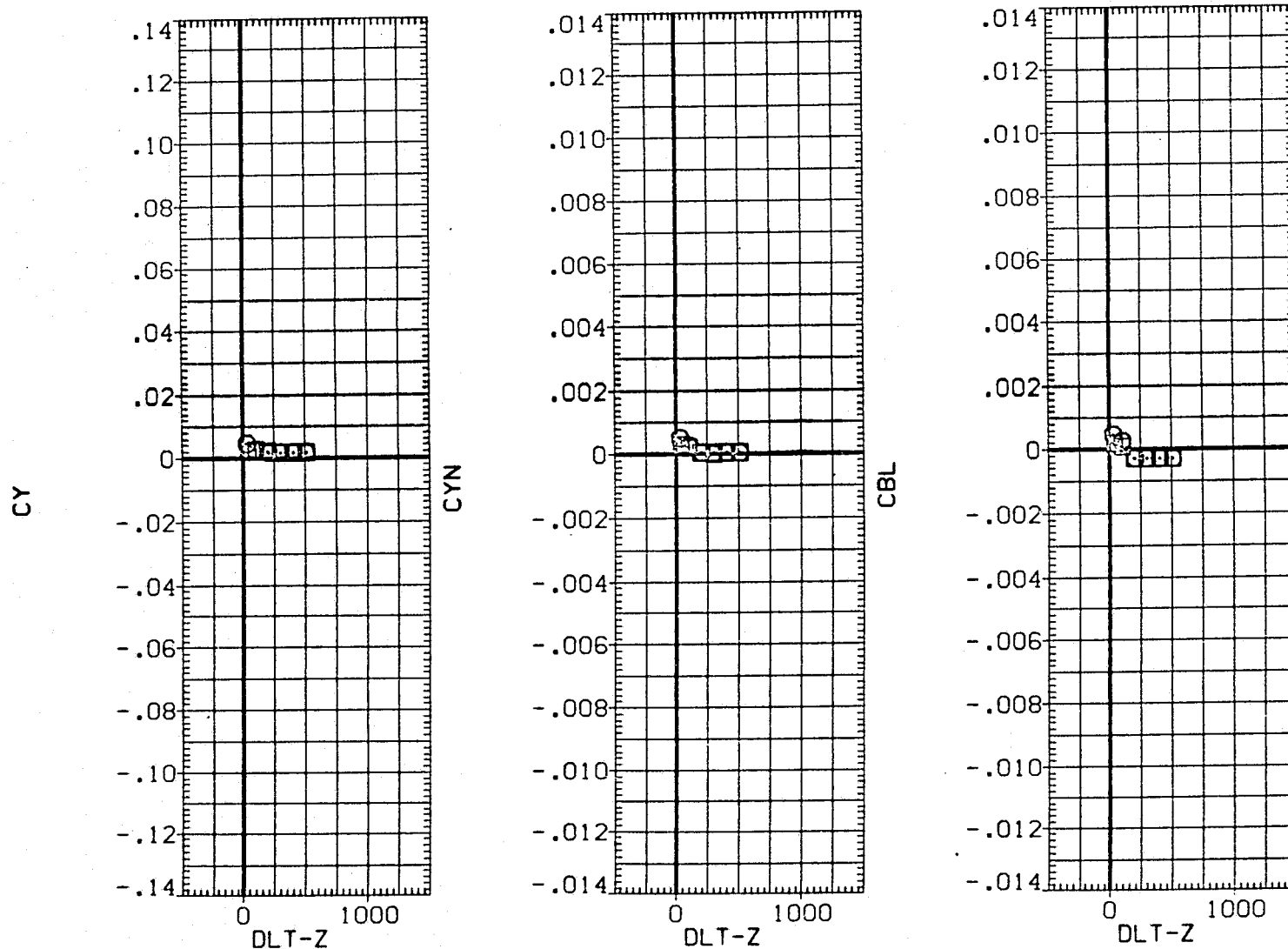


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR079)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.428	.000	ALPHA -10.000
□	400.350	.000	DLTALF -10.000
		.000	MACH 5.930
		.000	ELEVON -40.000
		10.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

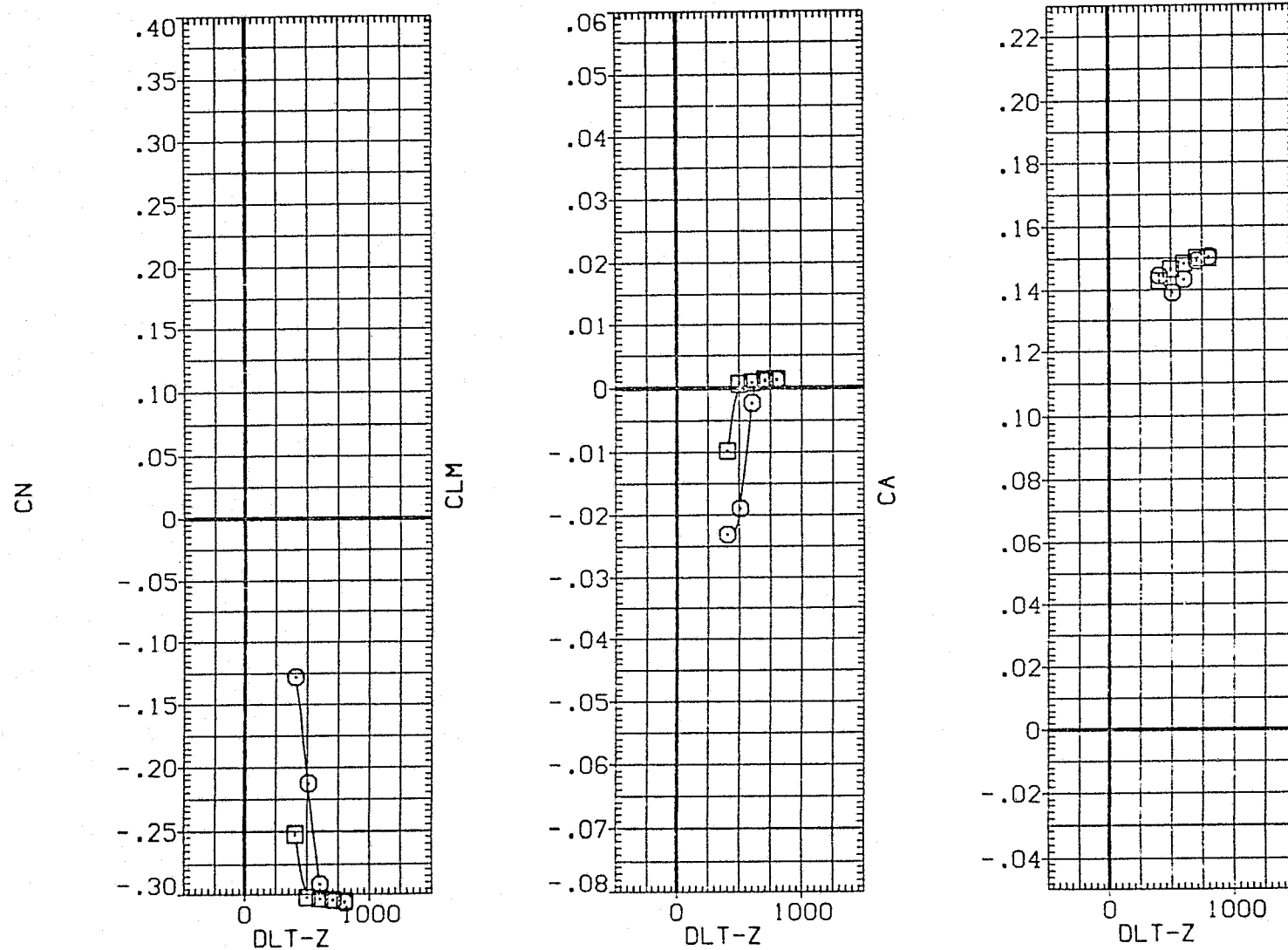


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR079)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.428	BETA	.000	-10.000
□	400.350	DLTBTA	.000	DLTALF -10.000
		AILRON	.000	MACH 5.930
		GRID	10.000	ELEVON -40.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

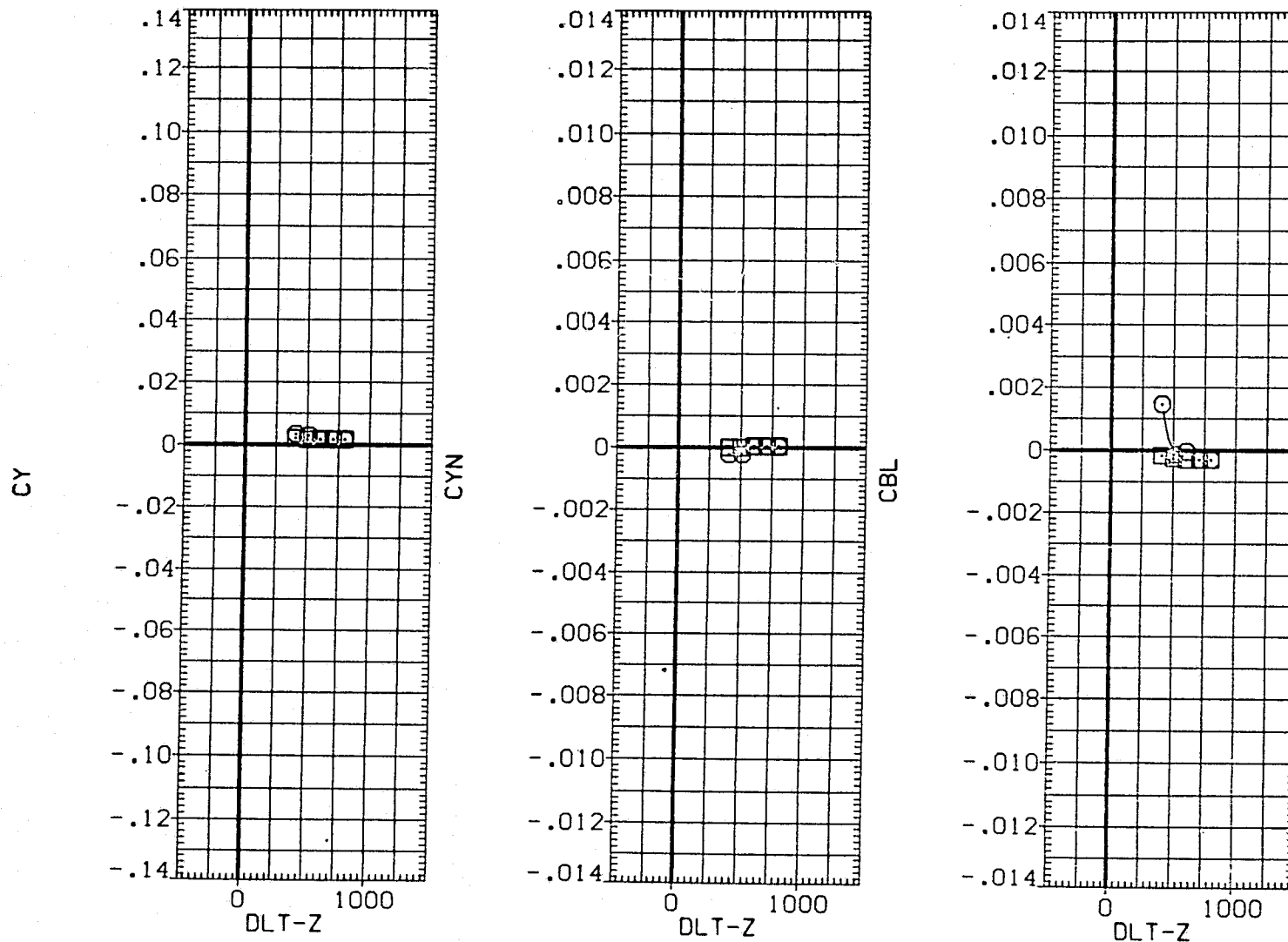


FIGURE 7 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,ELEVON= -40)

AEBC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR083)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.443	BETA	.000 ALPHA .000
□	400.530	DLTBTA	.000 DLTALF .000
		AILERON	15.000 MACH 5.930
		GRID	13.000 ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

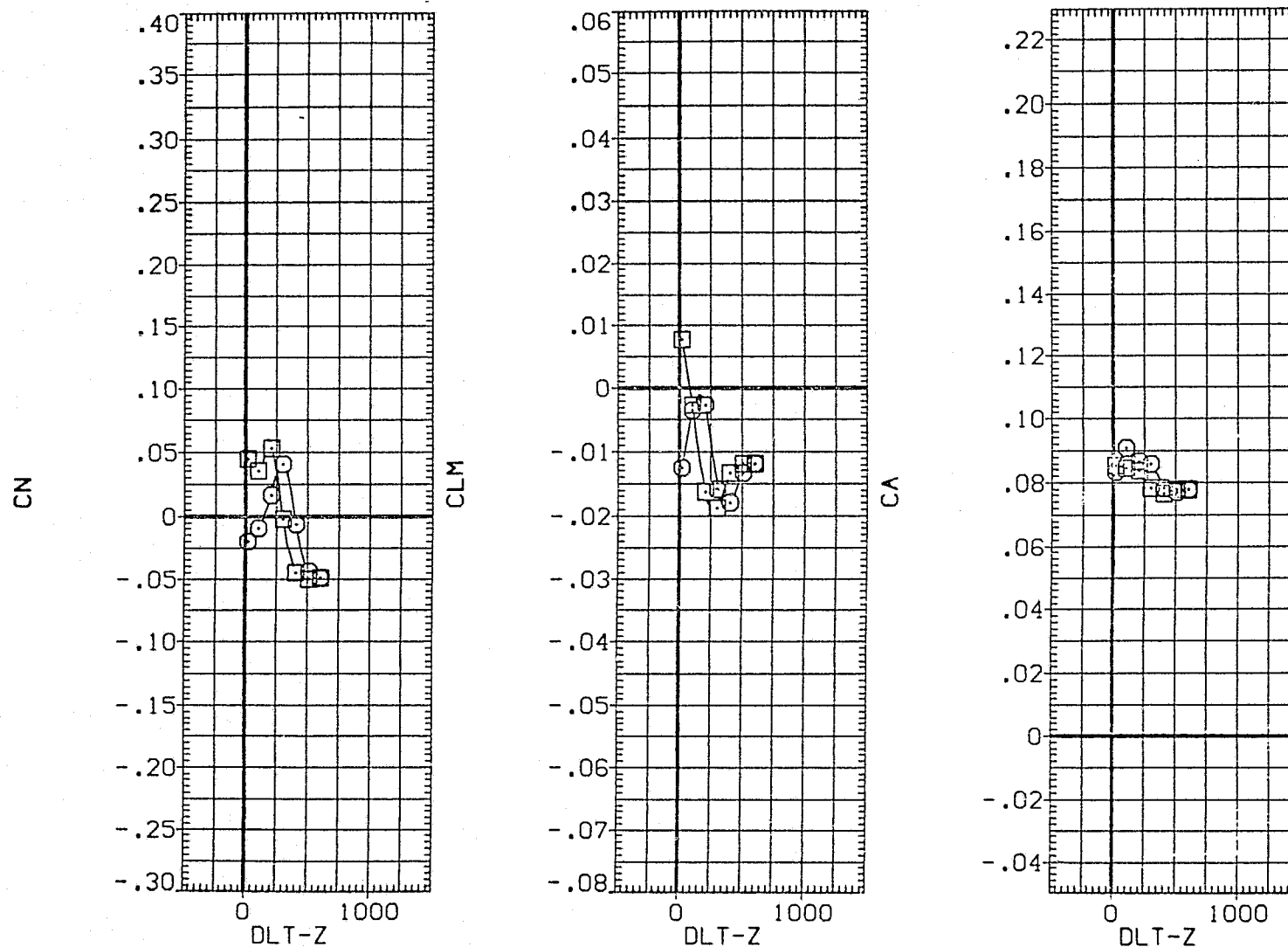


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR083)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.443	.000	.000	.000	15.000	13.000		.000	.000	5.930	.000
□	400.530	.000	.000	.000							

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

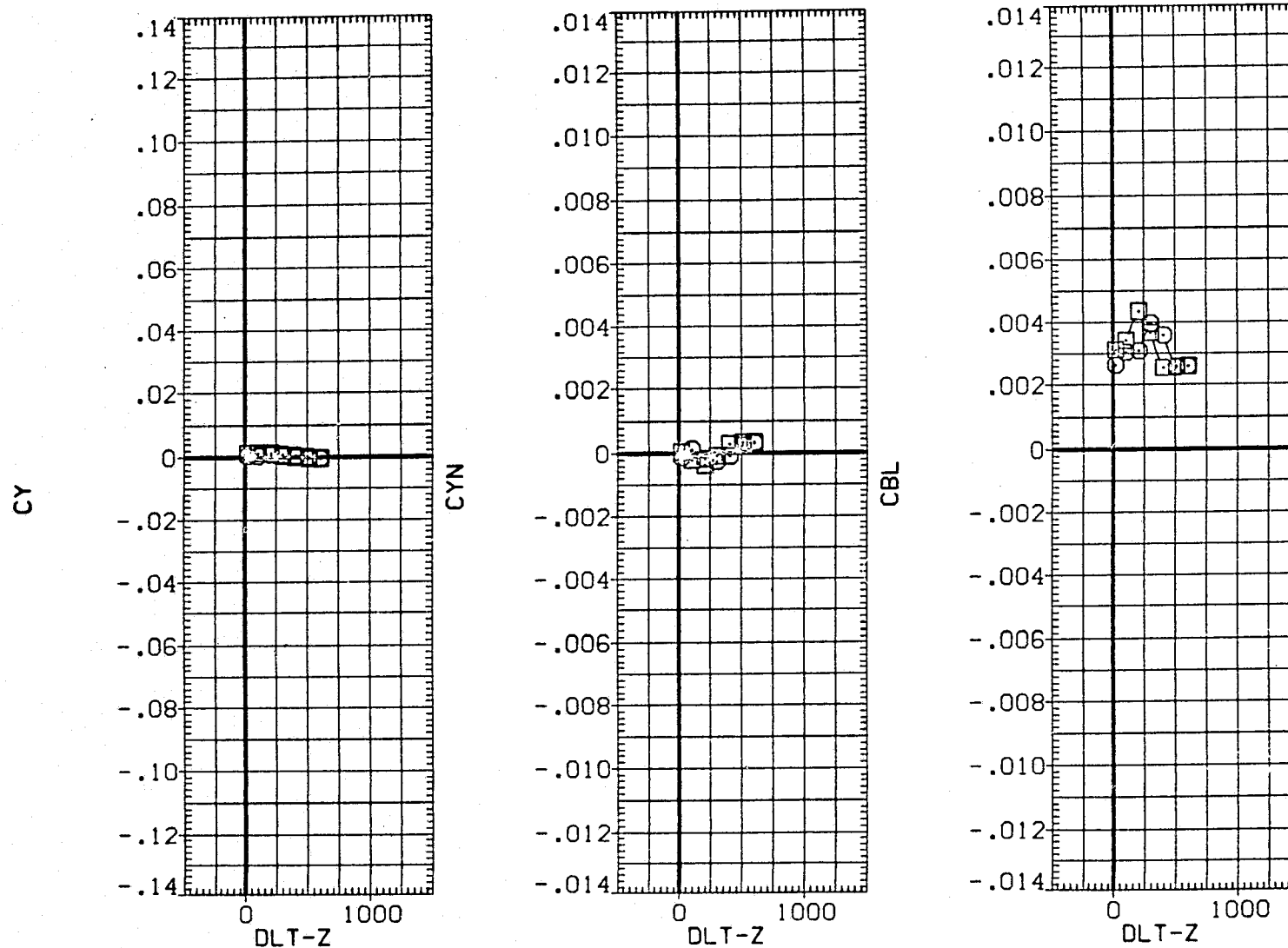


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR084)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.586	.000	DLTALF	.000
□	400.410	.000	MACH	-10.000
		.000	ELEVON	5.930
		15.000		.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

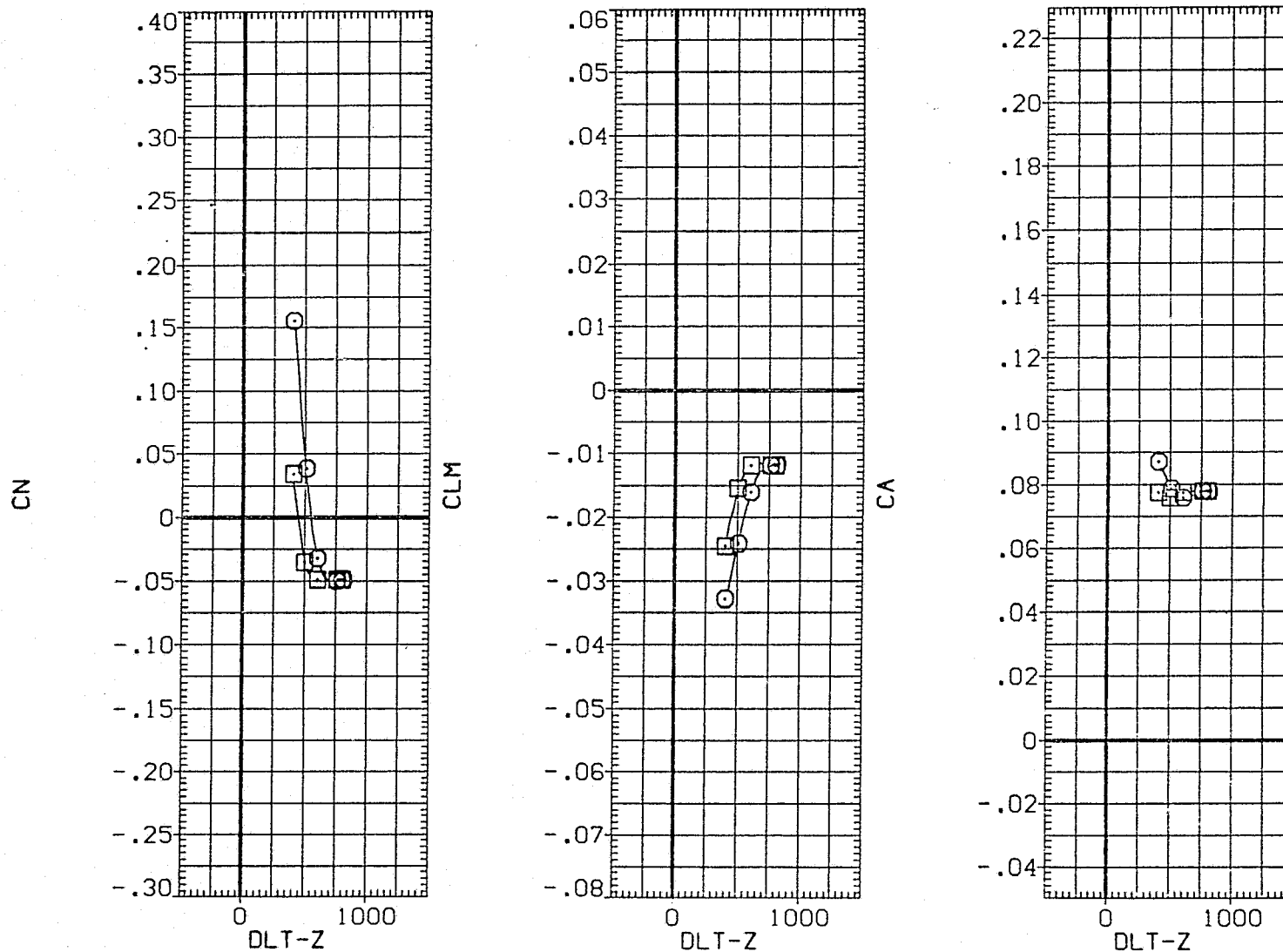


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR084)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.586	.000	ALPHA .000
□	400.410	.000	DLTALF -10.000
		.000	MACH 5.930
		15.000	ELEVON .000
		13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

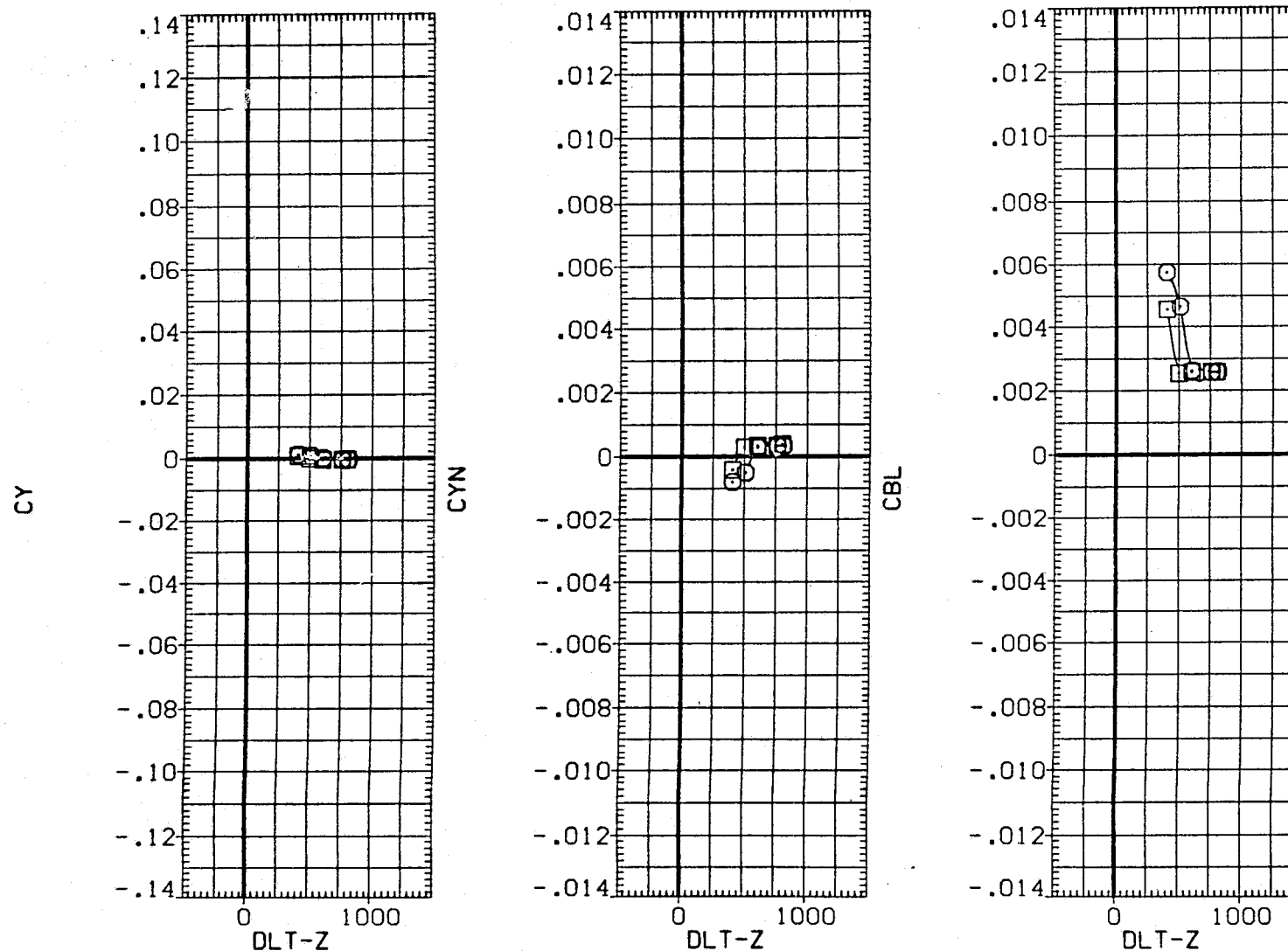


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR086)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.463	BETA	.000	.000
□	400.380	DLTBTA	.000	DLTALF -20.000
		AILRON	15.000	MACH 5.930
		GRID	13.000	ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRE	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

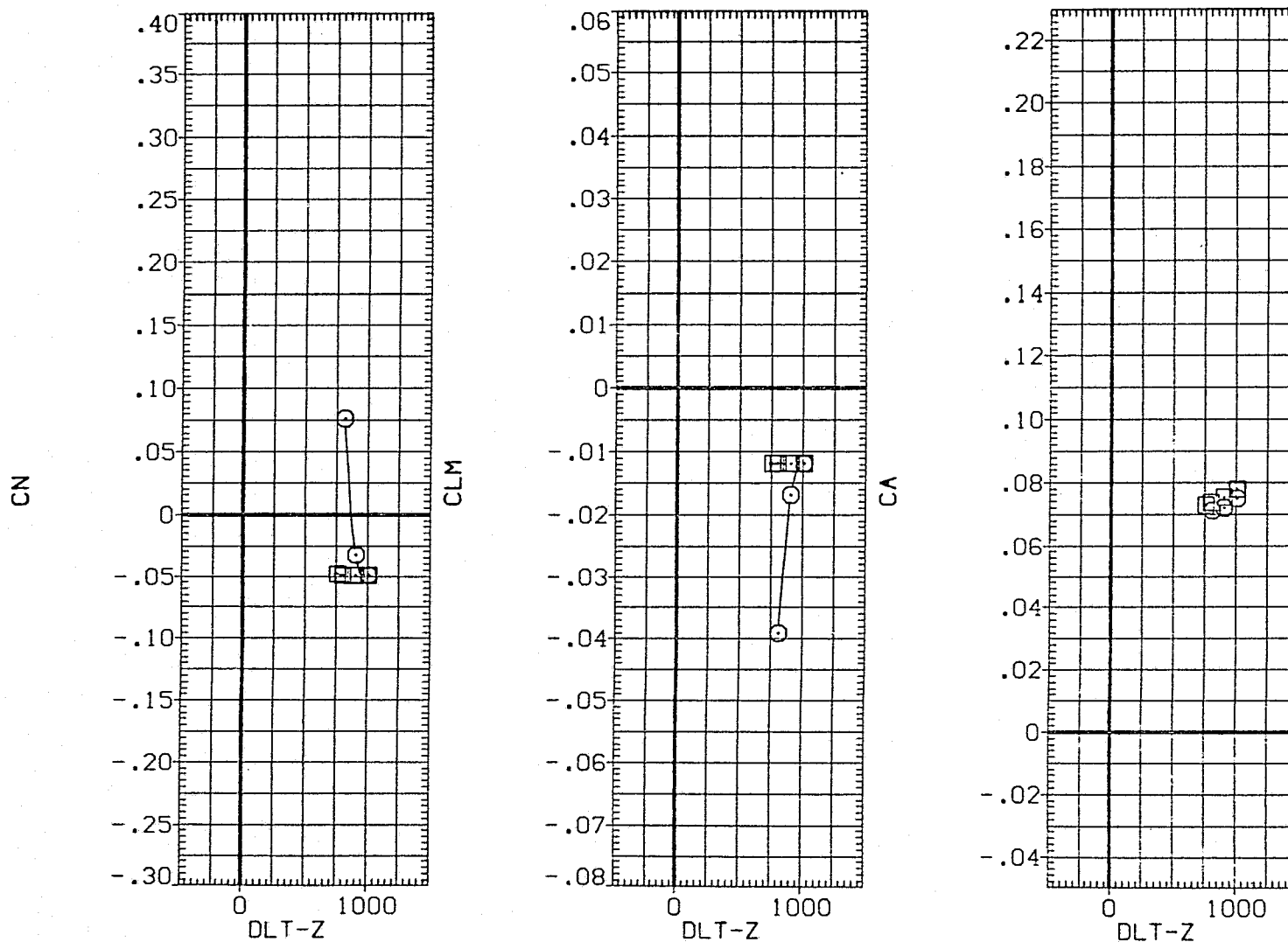


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR086)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.463	BETA	.000	.000
□	400.380	DLTBTB	.000	DLTALF -20.000
		AILRON	15.000	MACH 5.930
		GRID	13.000	ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

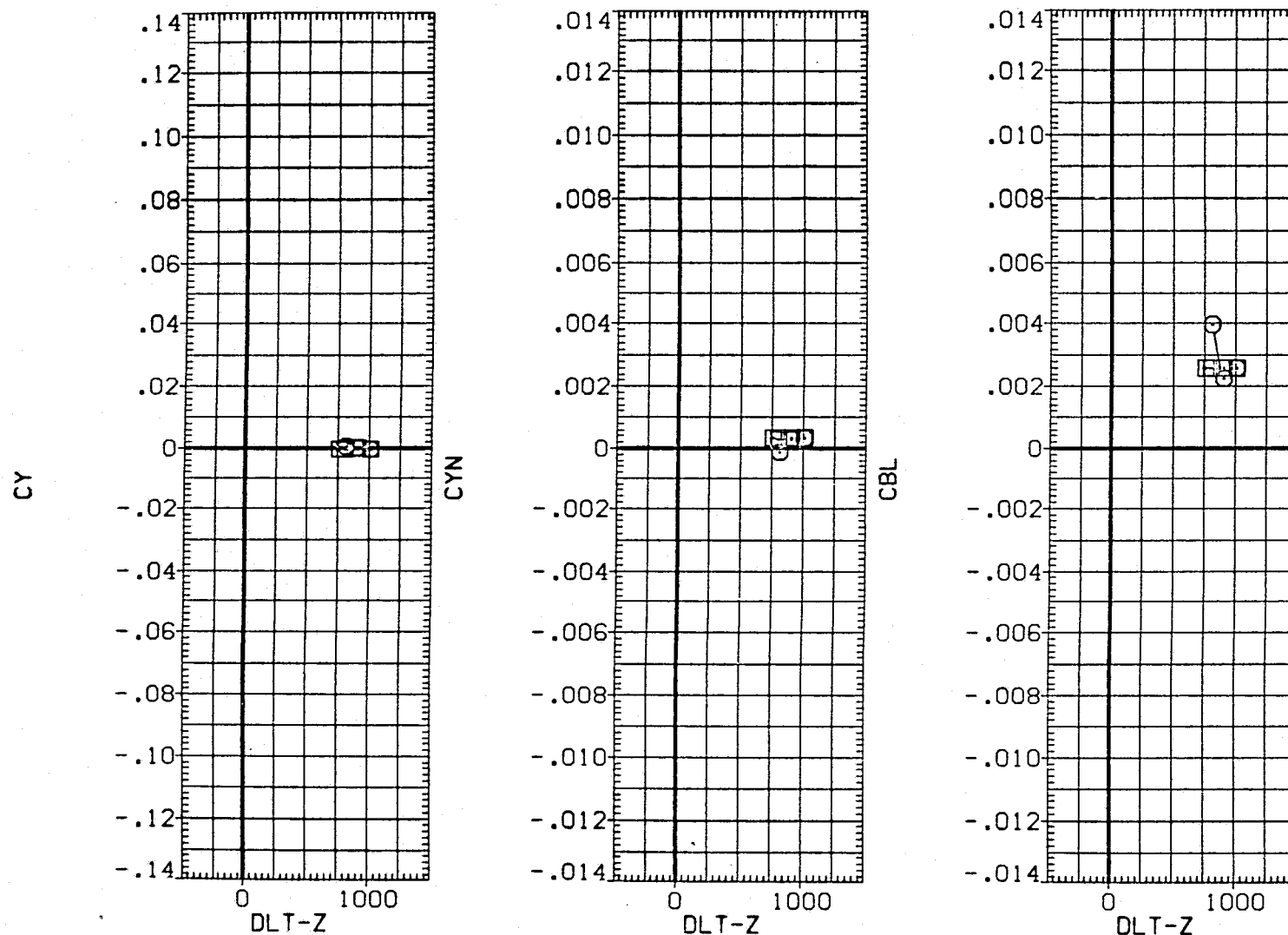


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR080)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.531	BETA	.000	ALPHA .000
		DLTBFA	3.000	DLTALF .000
		AILRON	.000	MACH 5.930
		GRID	15.000	ELEVON .000
			14.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

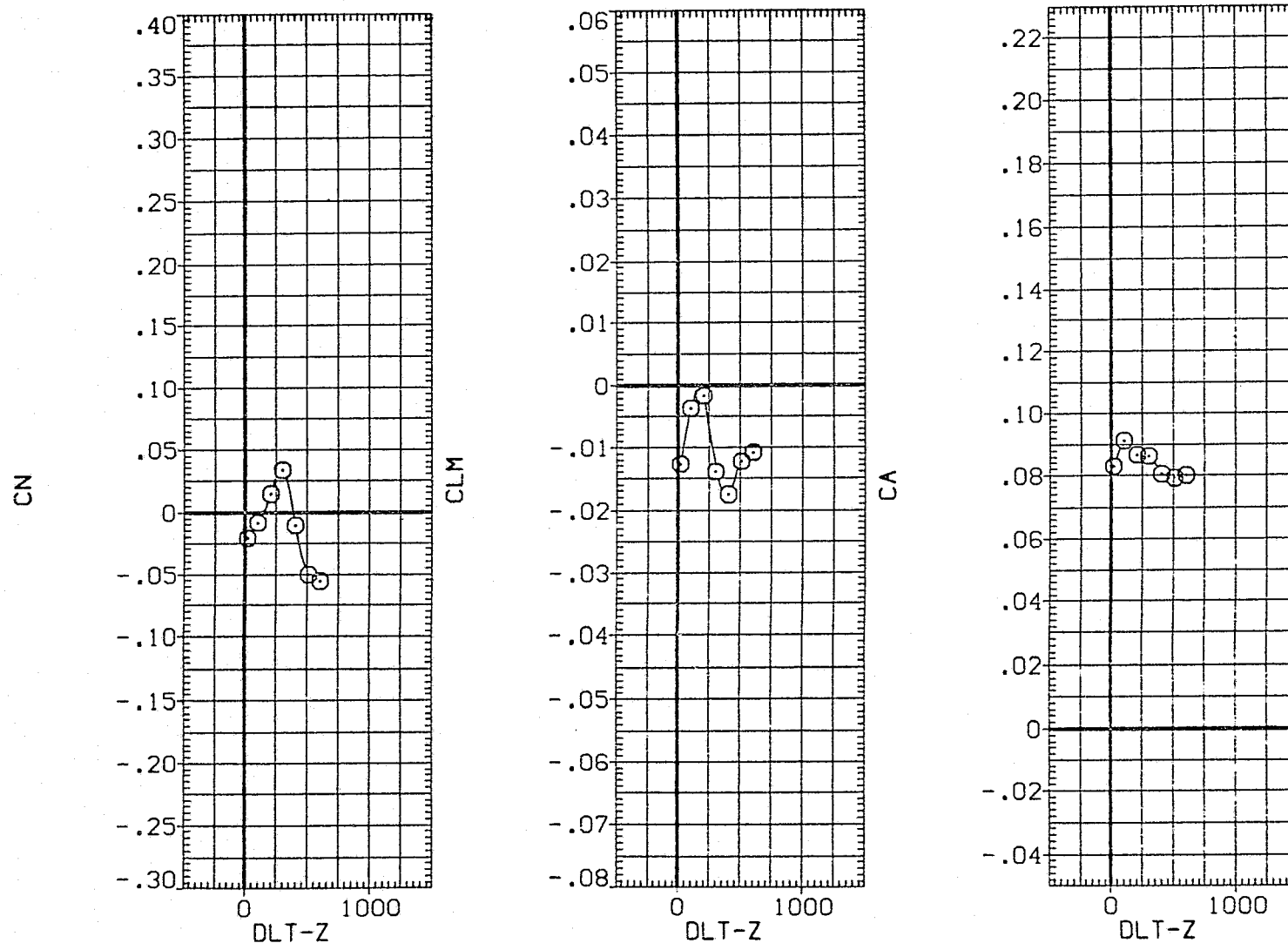


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR080)

SYMBOL ○	DLT-X	PARAMETRIC VALUES			
	.531	DLT-Y	.000	ALPHA	.000
		BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

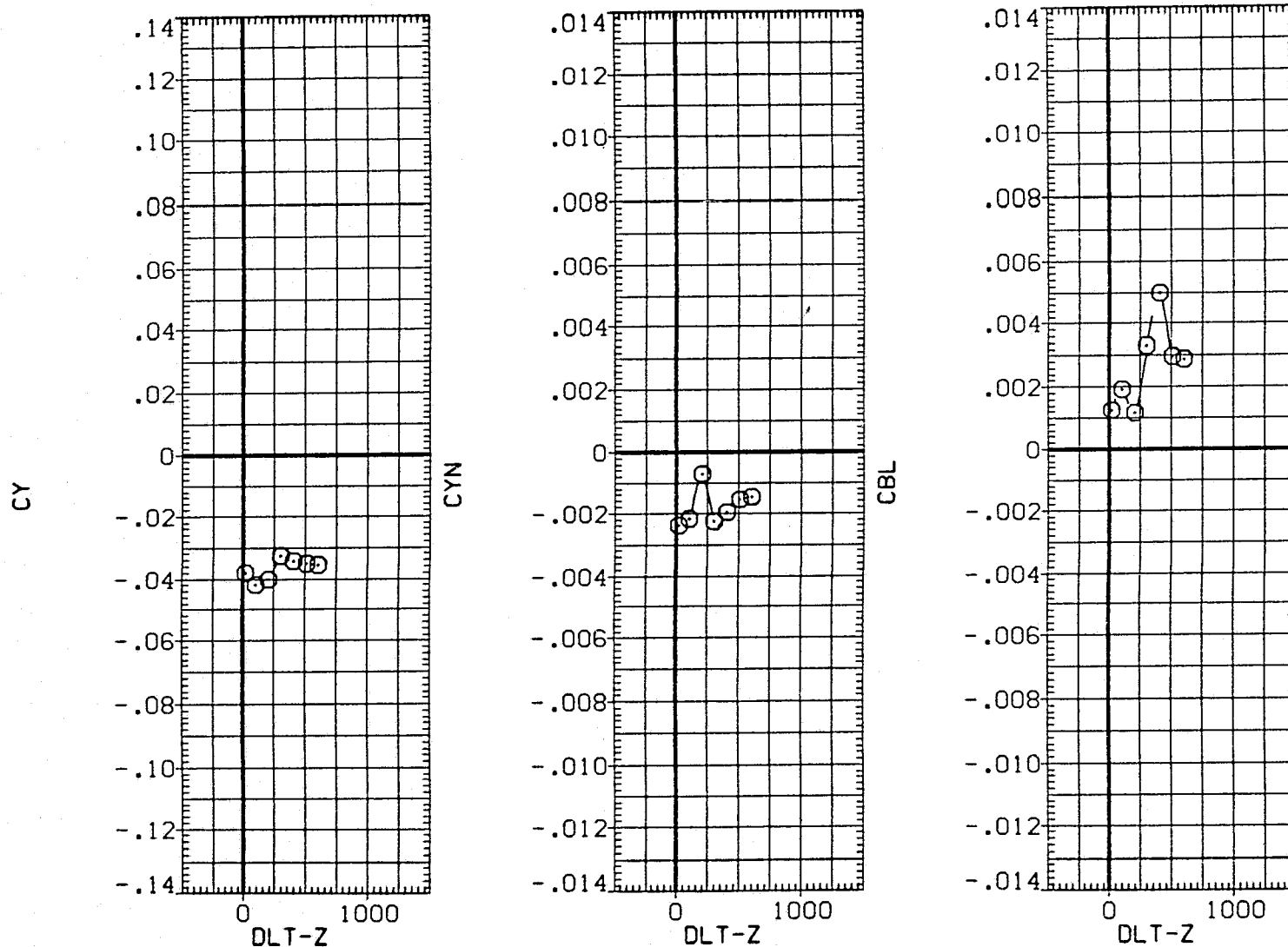


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILRON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR081)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.562	.000	3.000	.000	15.000	14.000		.000	-10.000	5.930	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

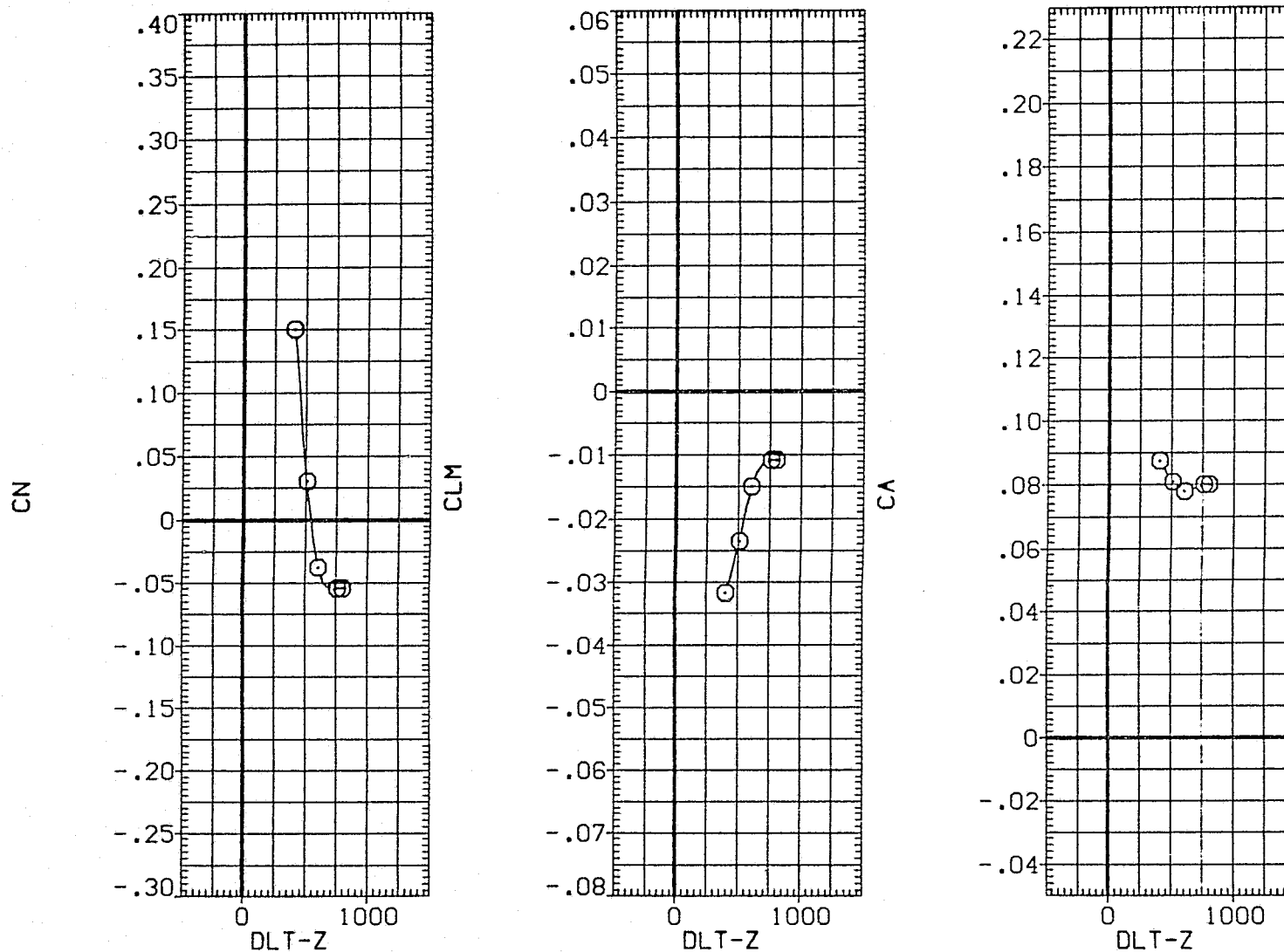


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR081)

SYMBOL
○

DLT-X
.562

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
.000
3.000
.000
15.000
14.000

ALPHA
DLTALF
MACH
ELEVON

.000
-10.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

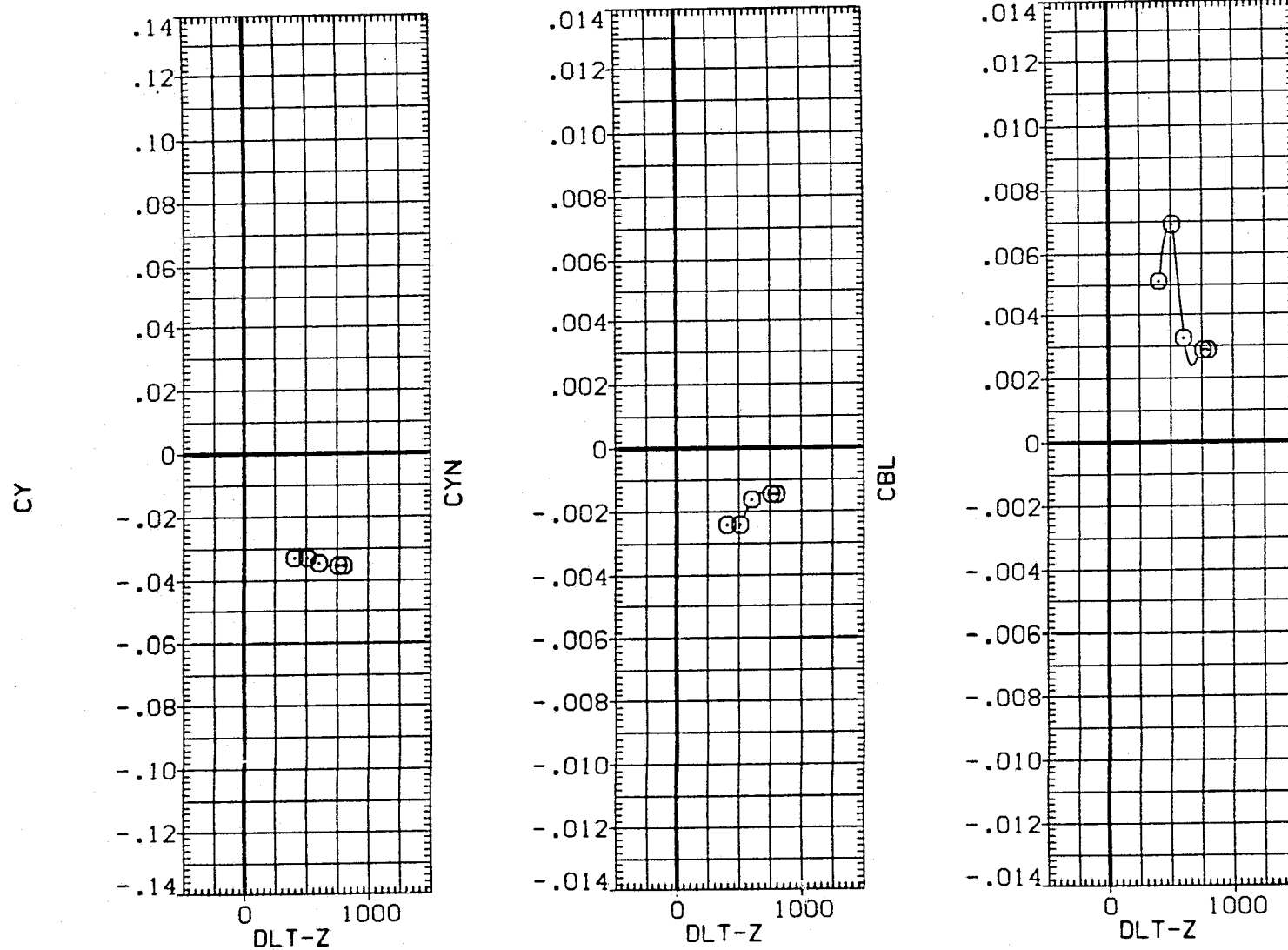


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILRON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR082)

SYMBOL
O

DLT-X
.514

PARAMETRIC VALUES
DLT-Y .000
BETA 3.000
DLTBTA .000
AILRON 15.000
GRID 14.000

ALPHA .000
DLTALF -20.000
MACH 5.930
ELEVON .000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

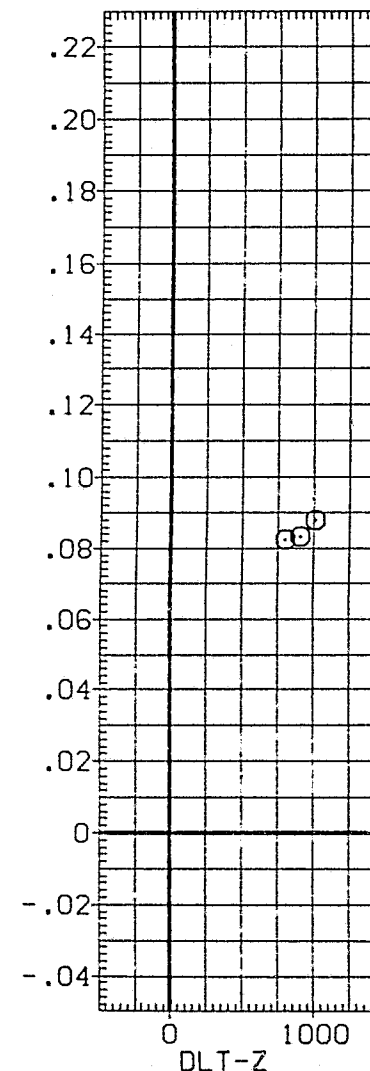
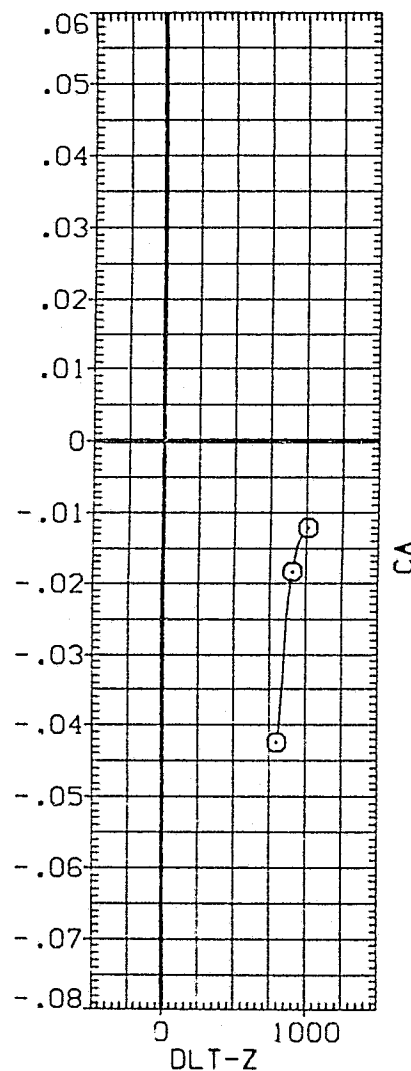
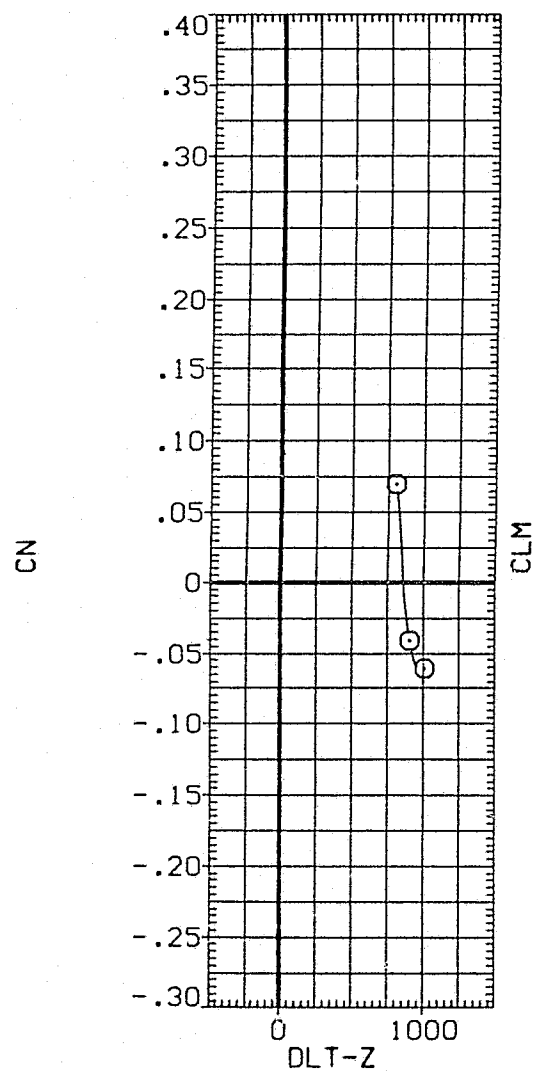


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR082)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.514	BETA	.000	.000
		DLTBTA	3.000	DLTALF -20.000
		AILERON	.000	MACH 5.930
		GRID	15.000	ELEVON .000
			14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

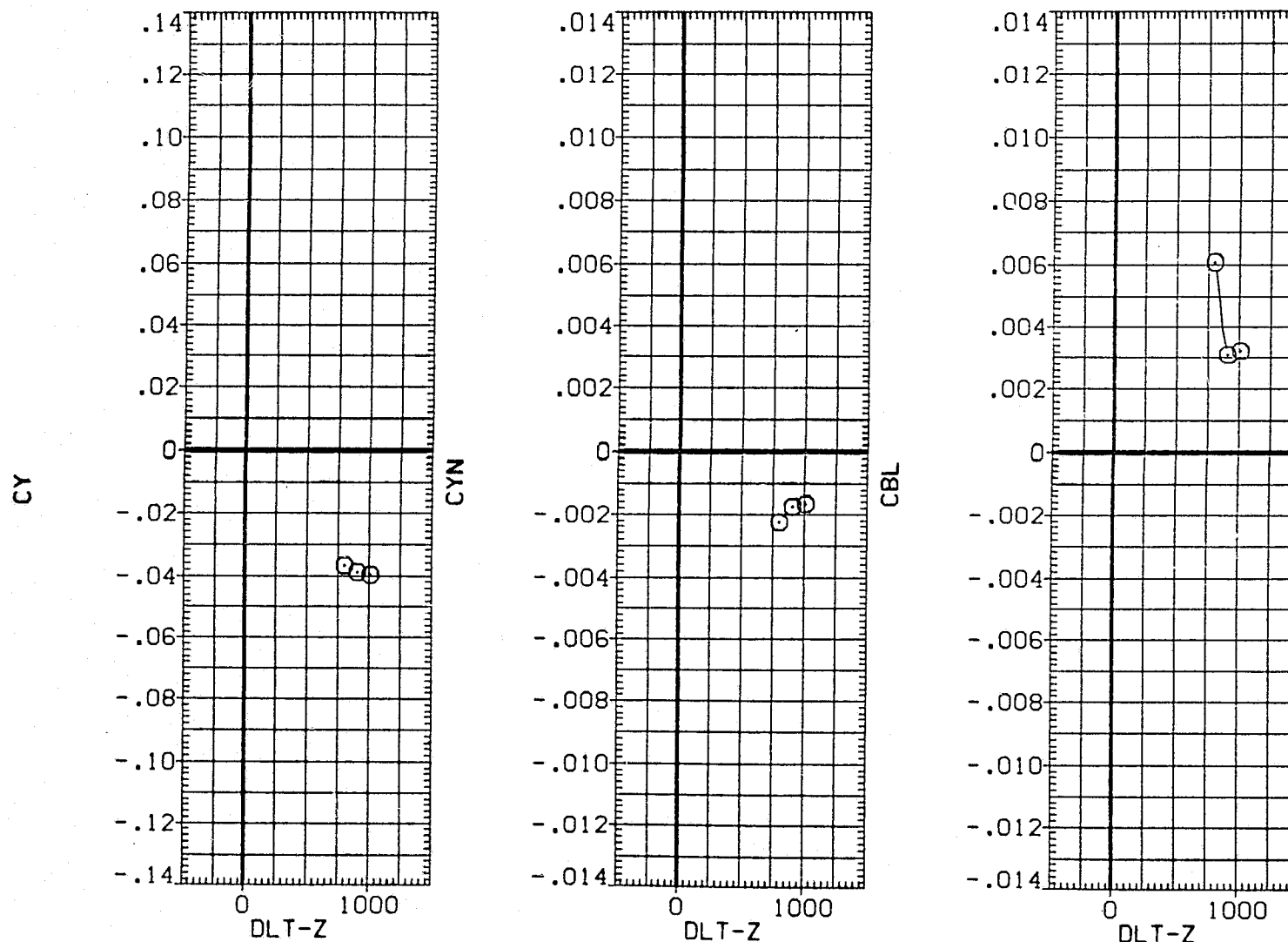


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR087)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.550	.000	ALPHA	5.000
□	400.510	.000	DLTALF	.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

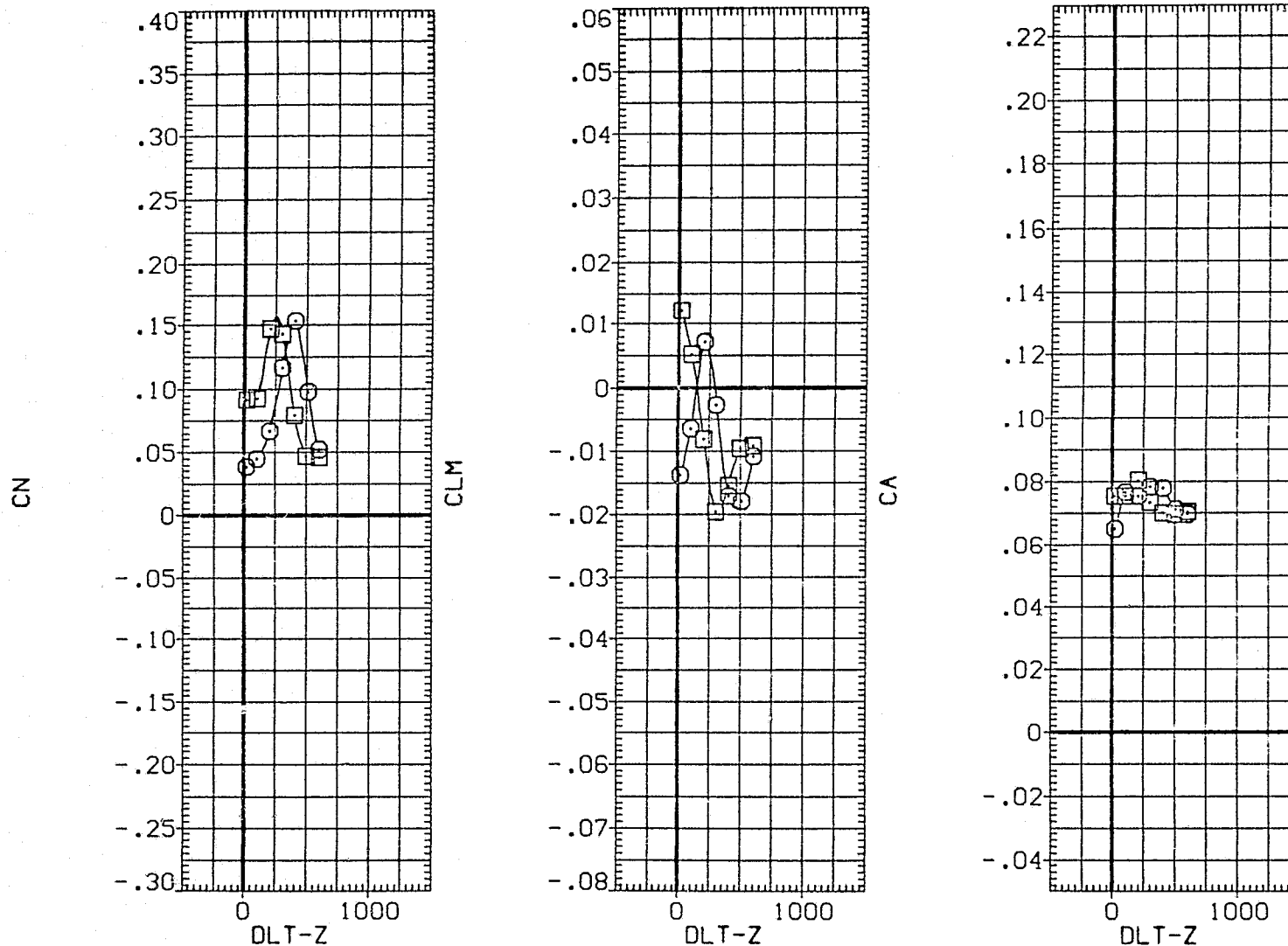


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR087)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.550	BETA	.000	ALPHA
□	400.510	DLTBT	.000	DLTALF
		AILRON	15.000	MACH
		GRID	12.000	ELEVON
				.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

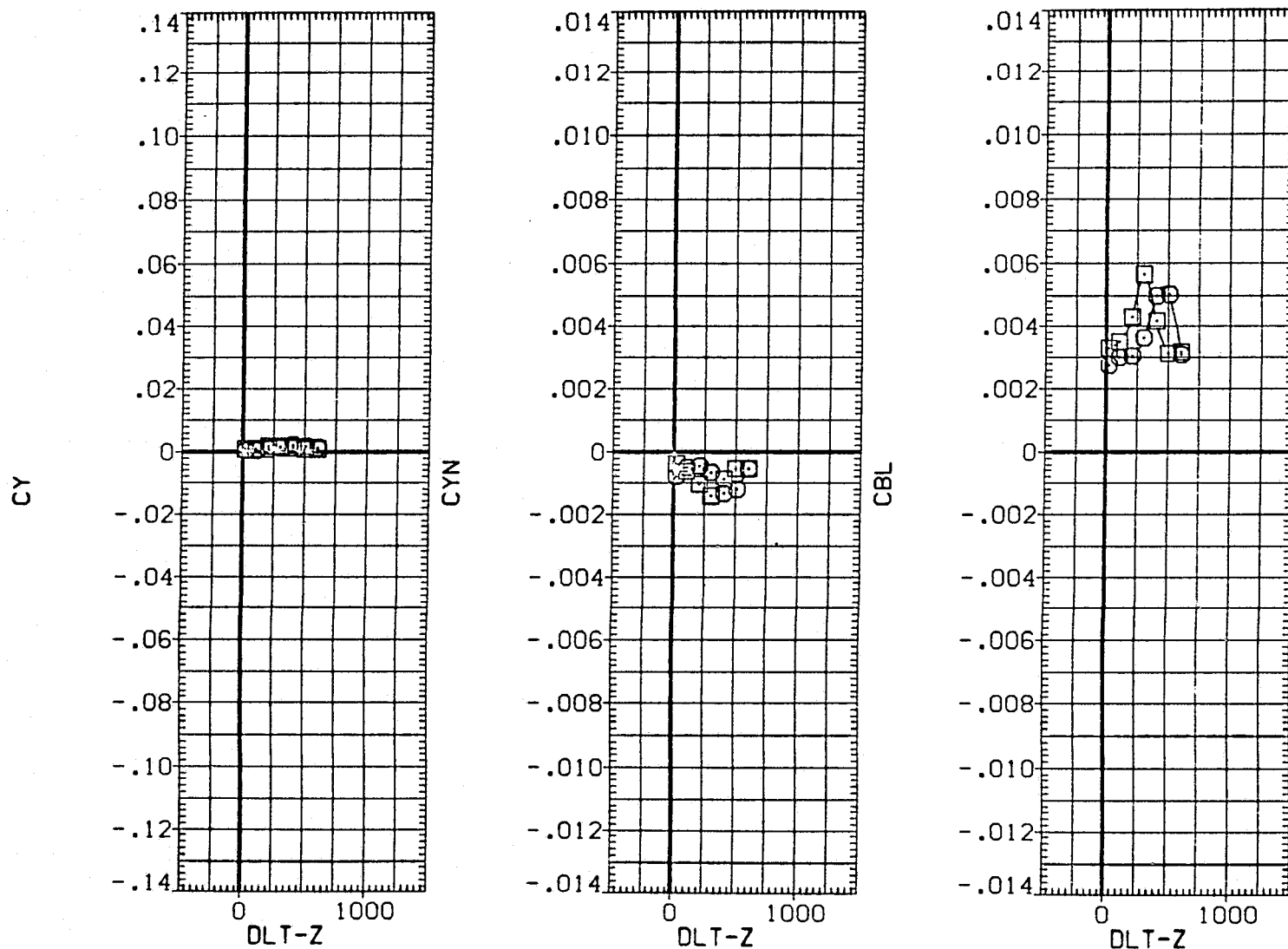


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR088)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.464	.000		5.000
□	400.440	.000	DLTALF	-10.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

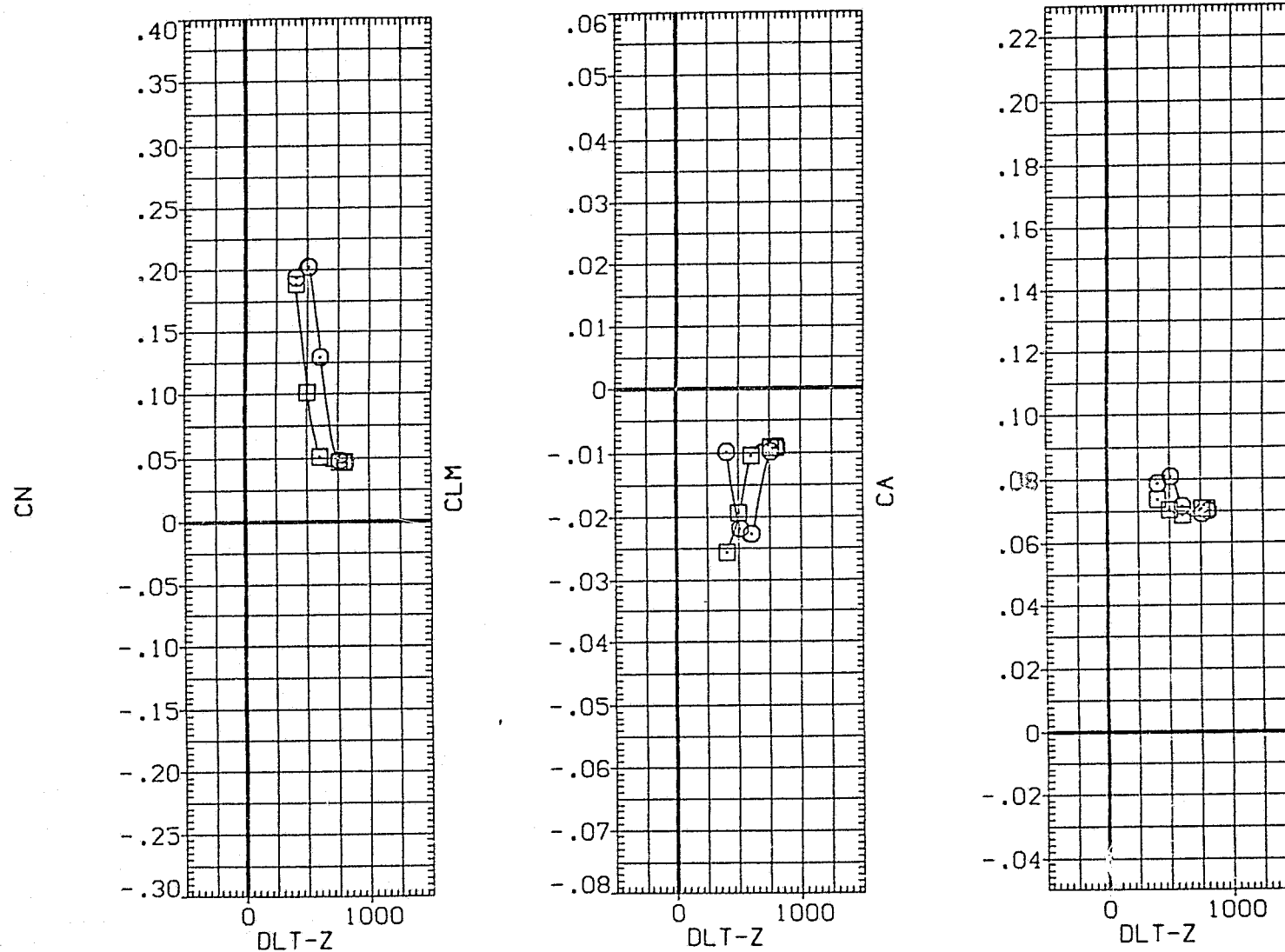


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR088)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.464	DLT-Y	.000	ALPHA	5.000
□	400.440	BETA	.000	DLTALF	-10.000
		DLTBT A	.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	12.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

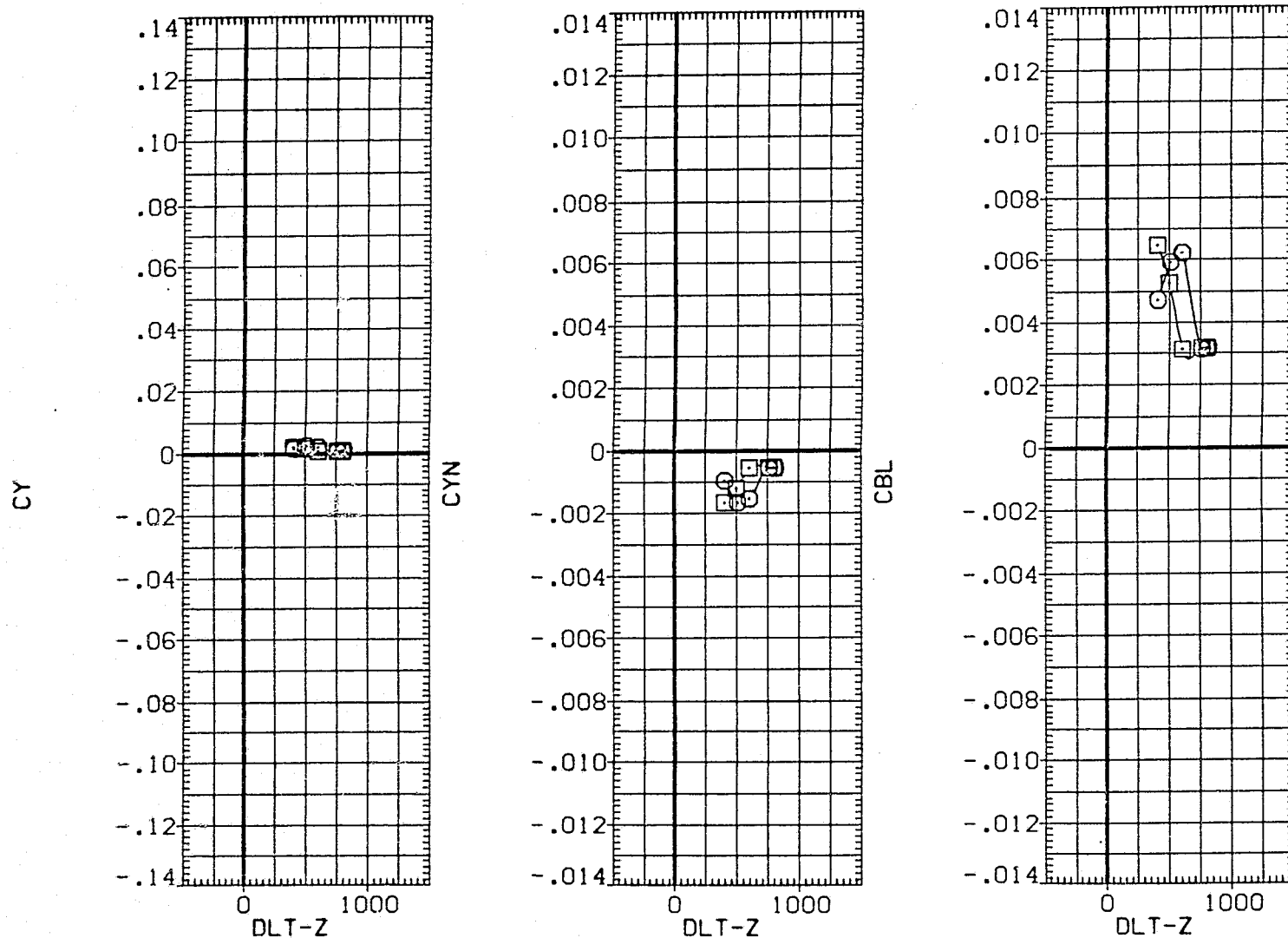


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILRON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR090)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.340	.000	ALPHA 5.000
□	400.490	.000	DLTALF -20.000
		.000	MACH 5.930
		.000	ELEVON .000
		15.000	
		12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

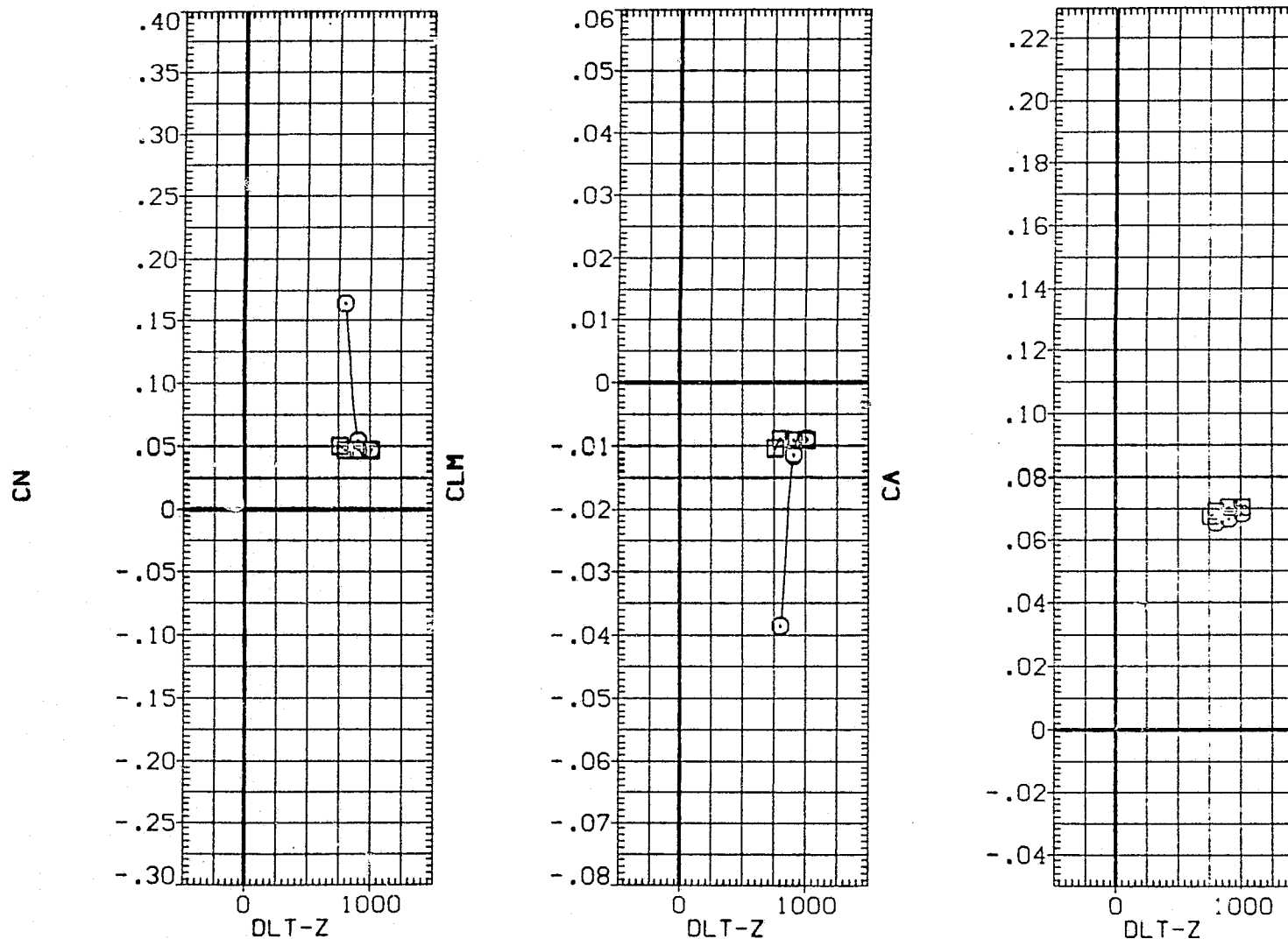


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR090)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.340	.000	5.000	-20.000
□	400.490	.000	5.930	.000
		15.000		
		12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

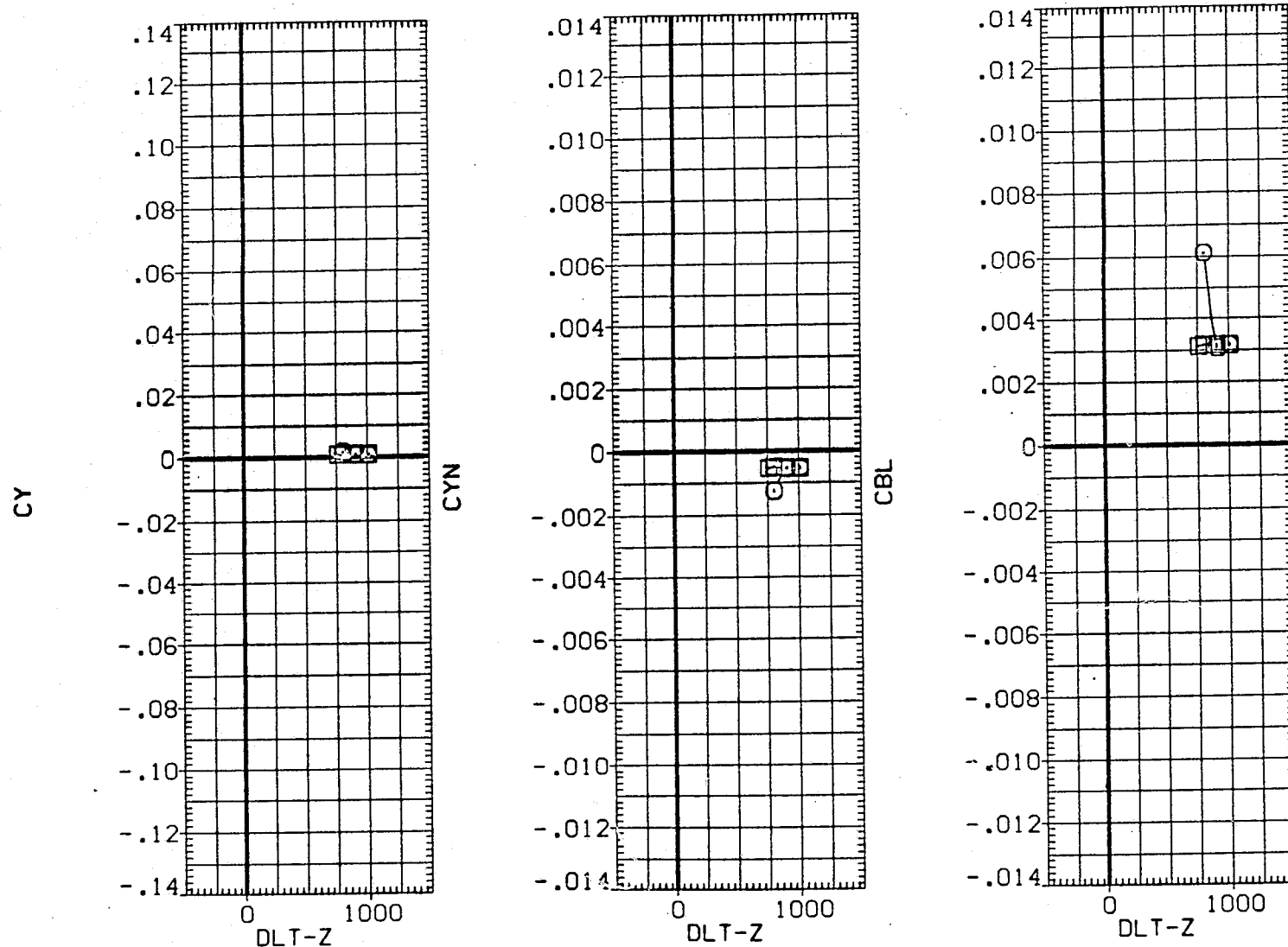


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR091)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.536	.000	ALPHA	-5.000
□	400.360	.000	DLTALF	.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		11.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

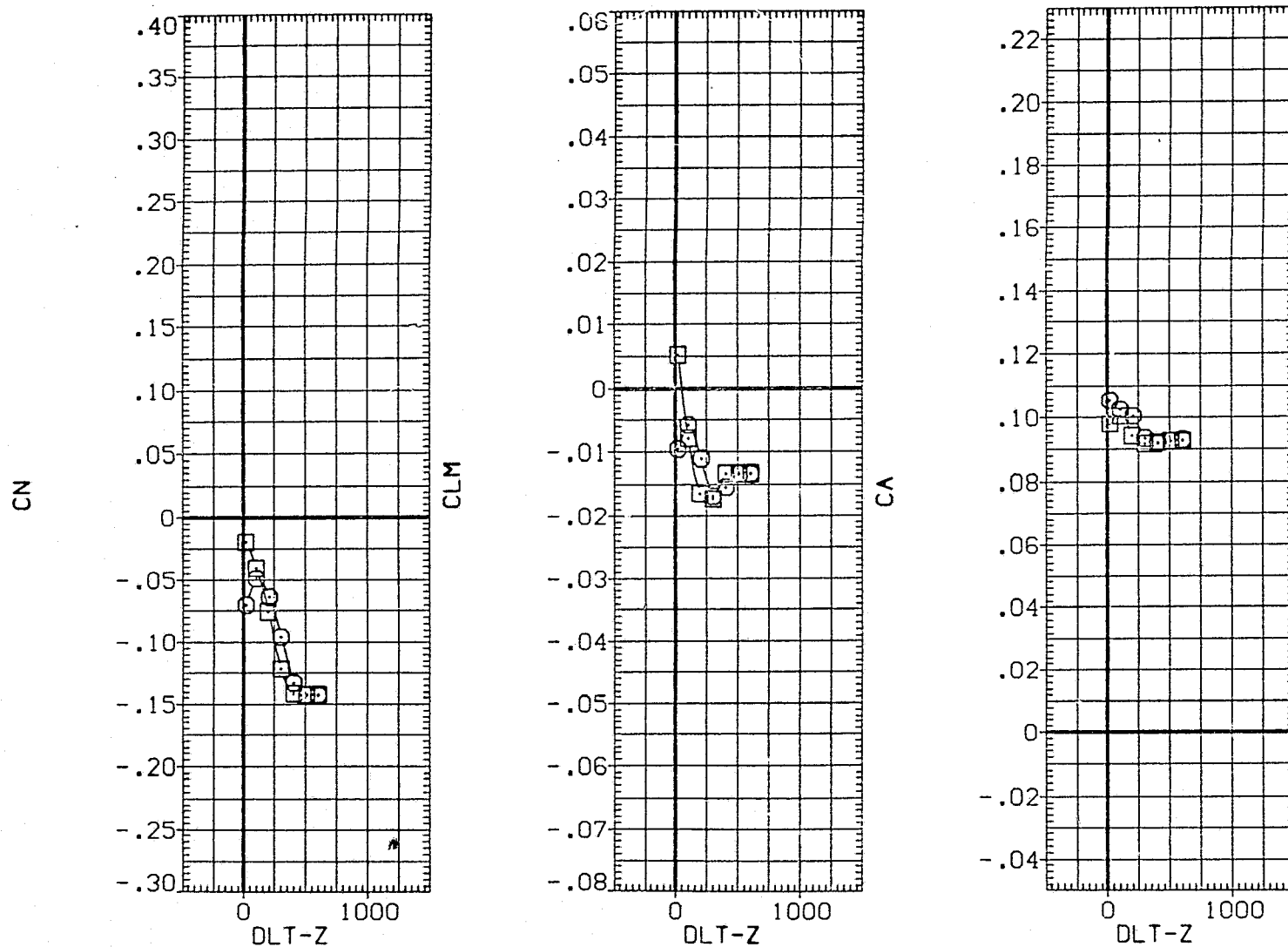


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR091)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.536	.000	ALPHA	-5.000
□	400.360	.000	DLTALF	.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

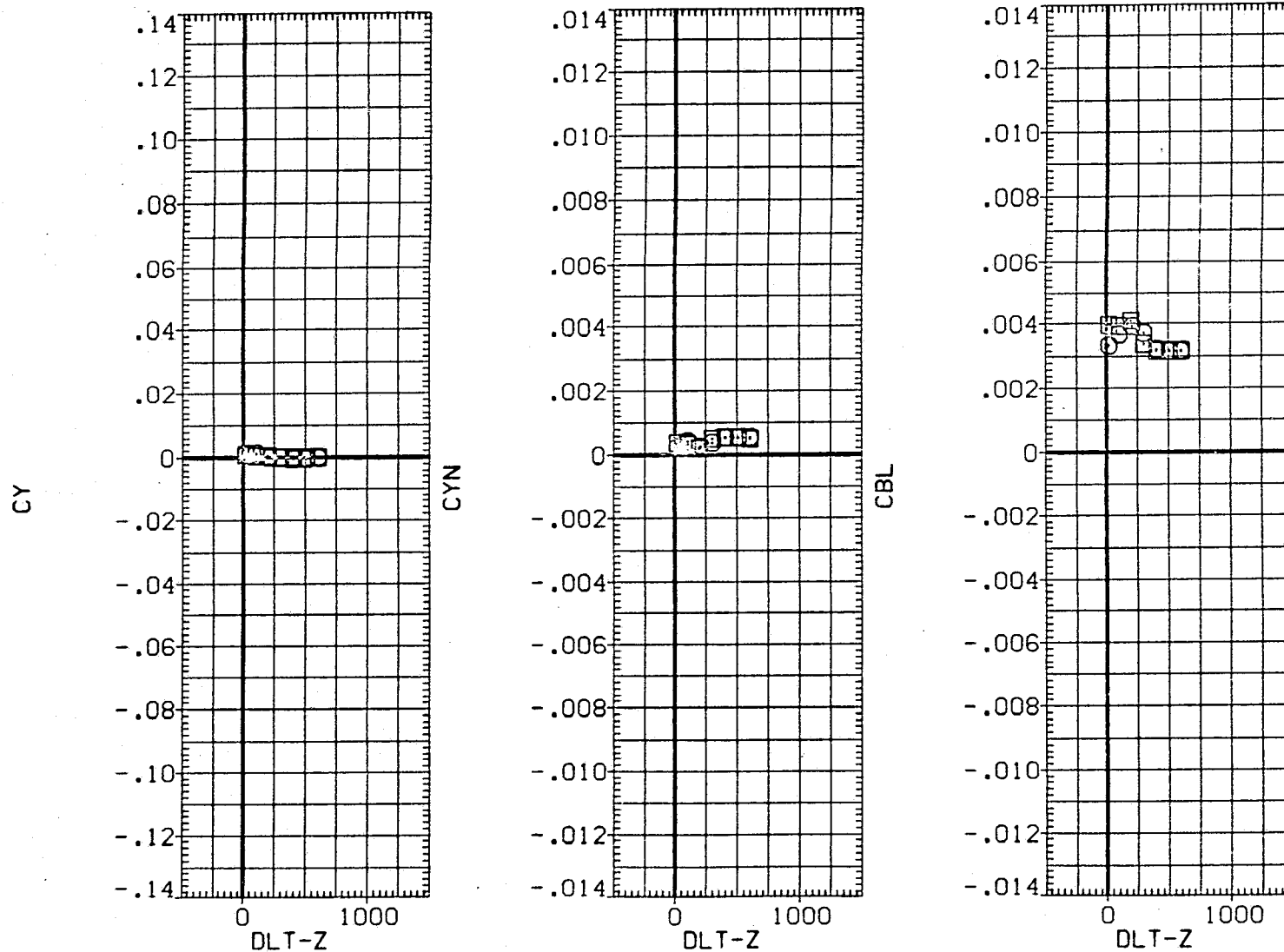


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR092)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.401	.000	ALPHA	-5.000
□	400.440	.000	DLTALF	-10.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YD
ZMRP	375.0000	IN. ZD
SCALE	.0100	

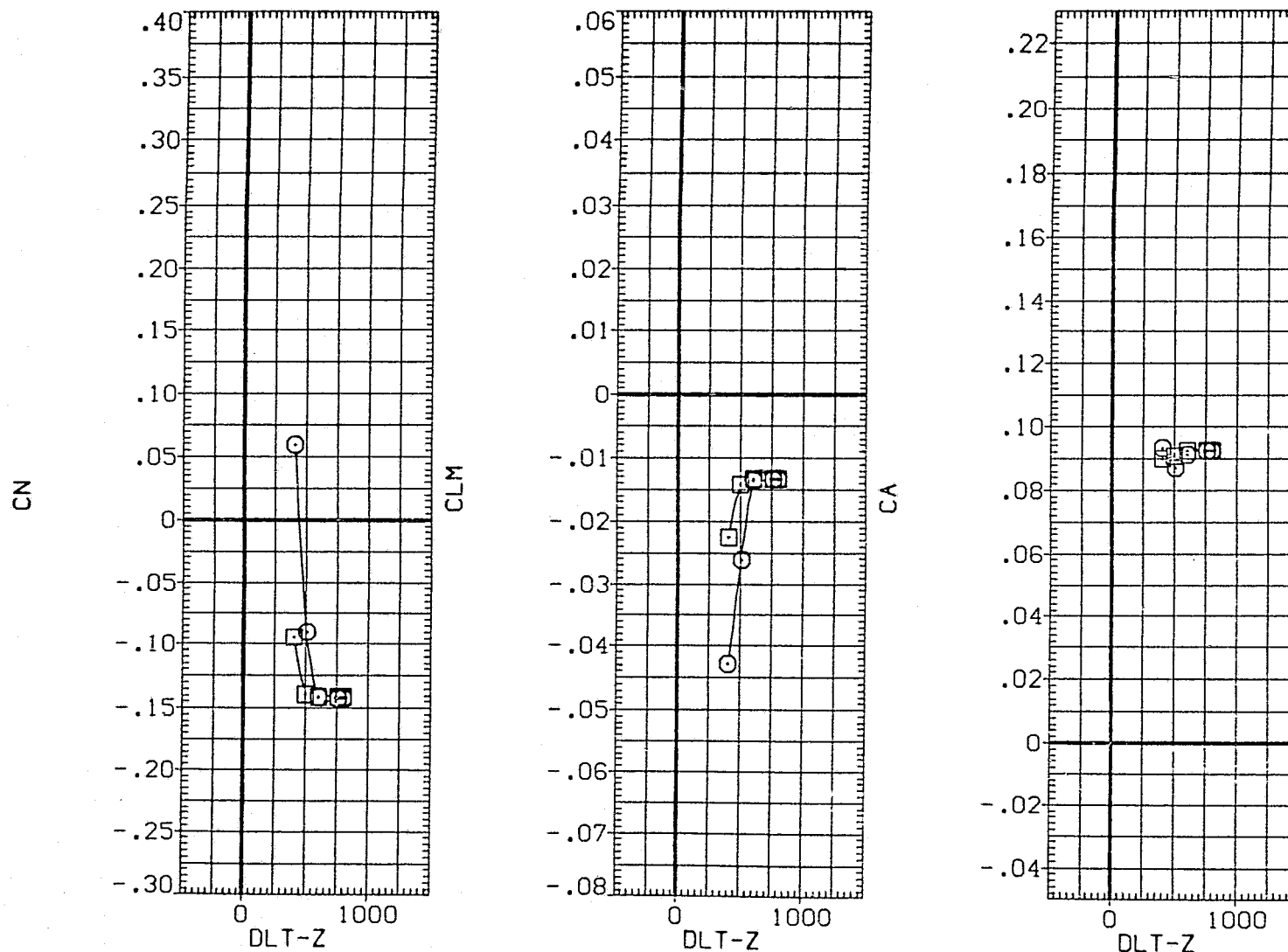


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR092)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.401	.000	ALPHA	-5.000
□	400.440	.000	DLTALF	-10.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

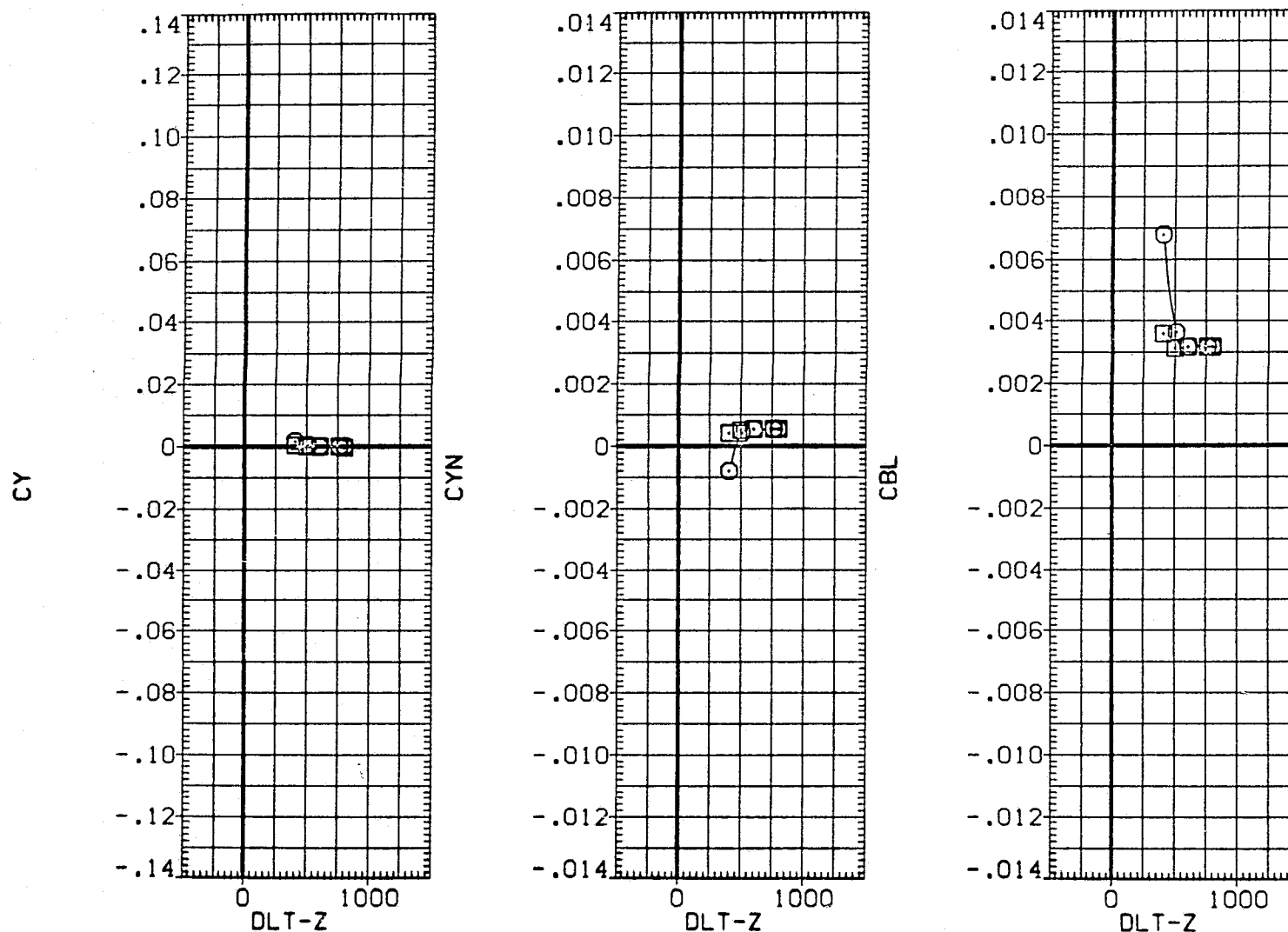


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR094)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.512	.000	ALPHA	-5.000
□	400.560	.000	DLTALF	-20.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

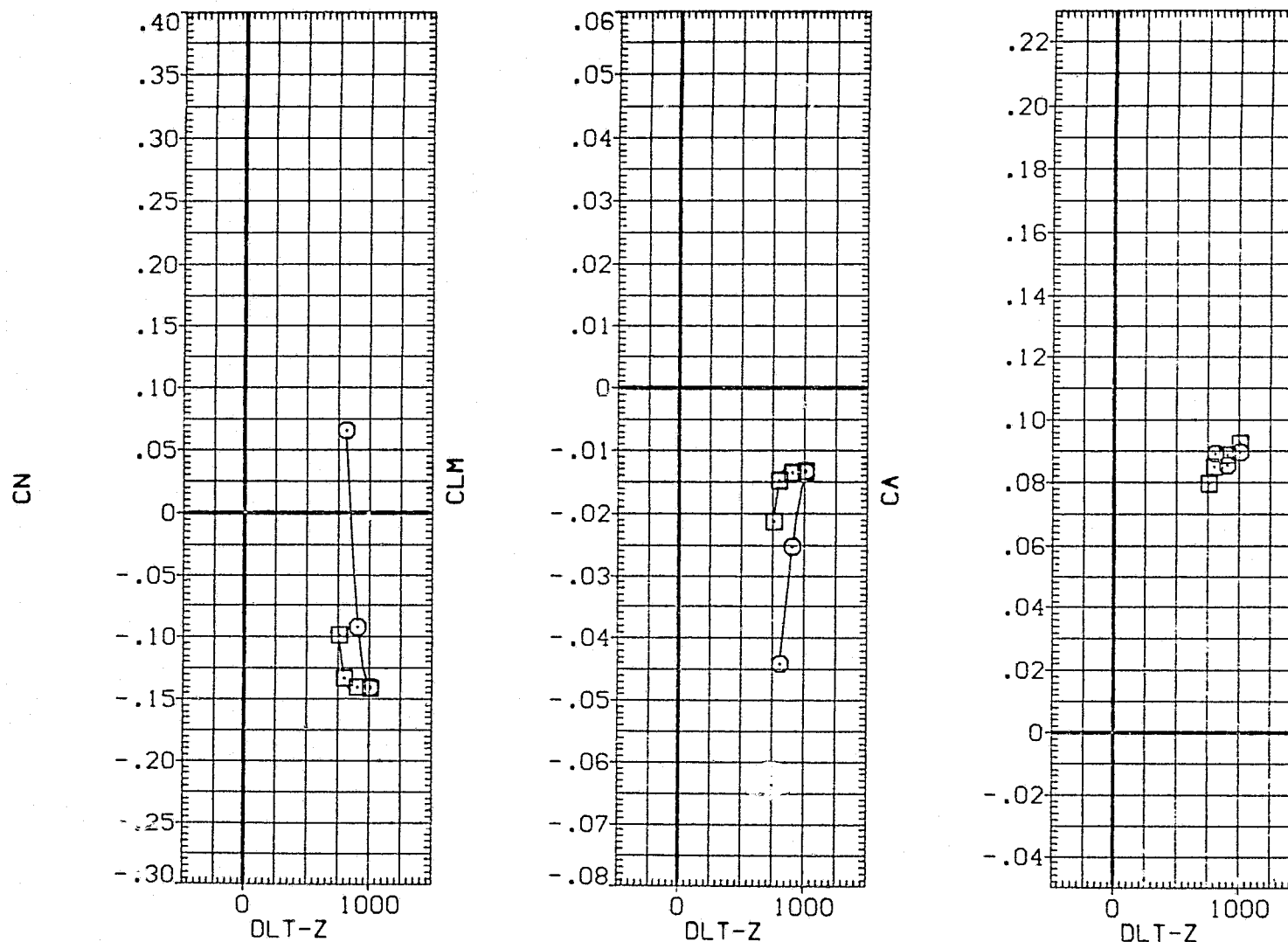


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR094)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.512	.000	ALPHA	-5.000
□	400.560	.000	DLTALF	-20.000
		.000	BETA	.000
		.000	DLTBTA	.000
		15.000	MACH	5.930
		11.000	ELEVON	.000
			GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

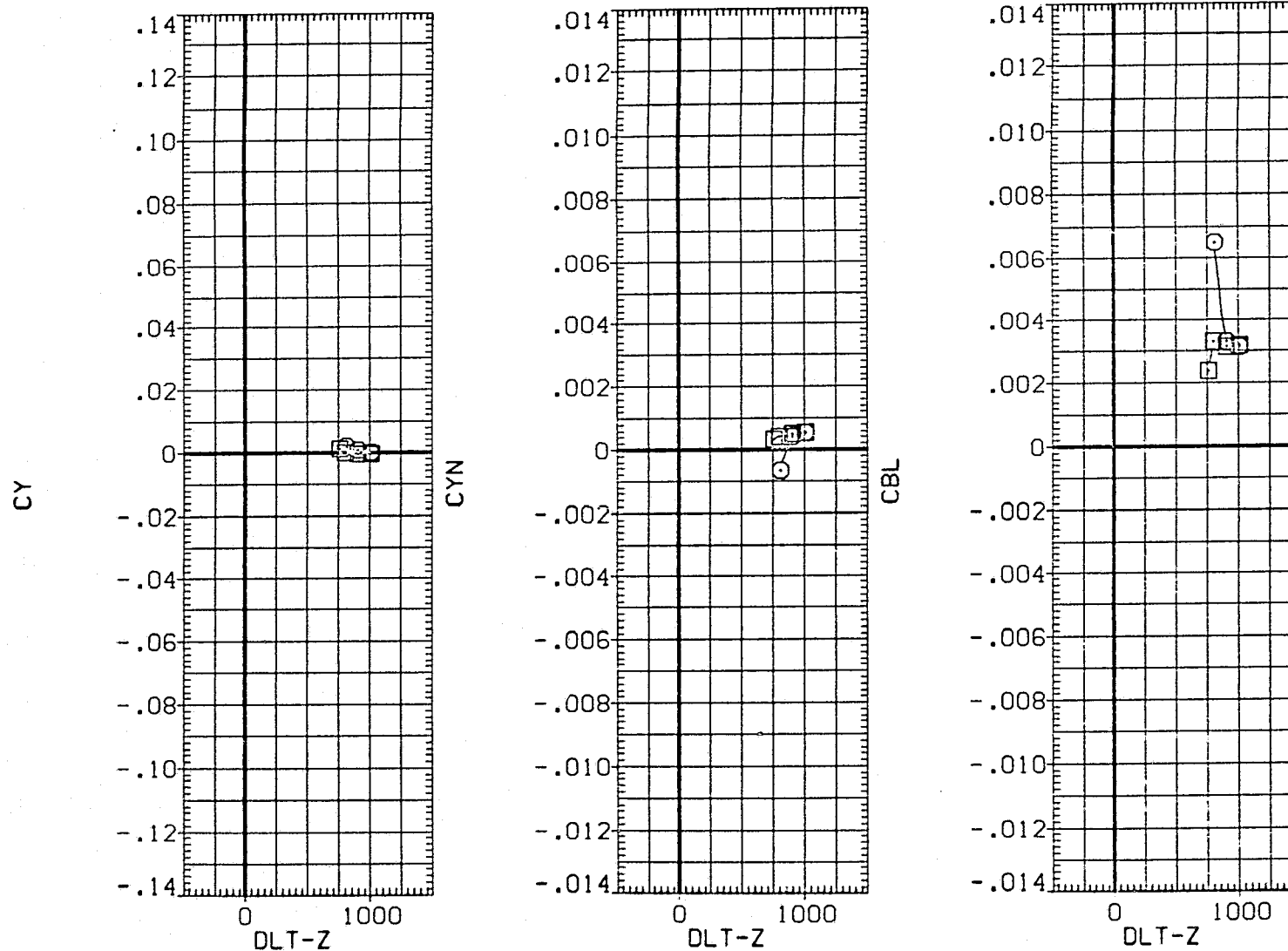


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR095)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.495	BETA	.000	ALPHA
□	400.410	DLTBT	.000	DLTALF
		AILRON	15.000	MACH
		GRID	10.000	ELEVON
				.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

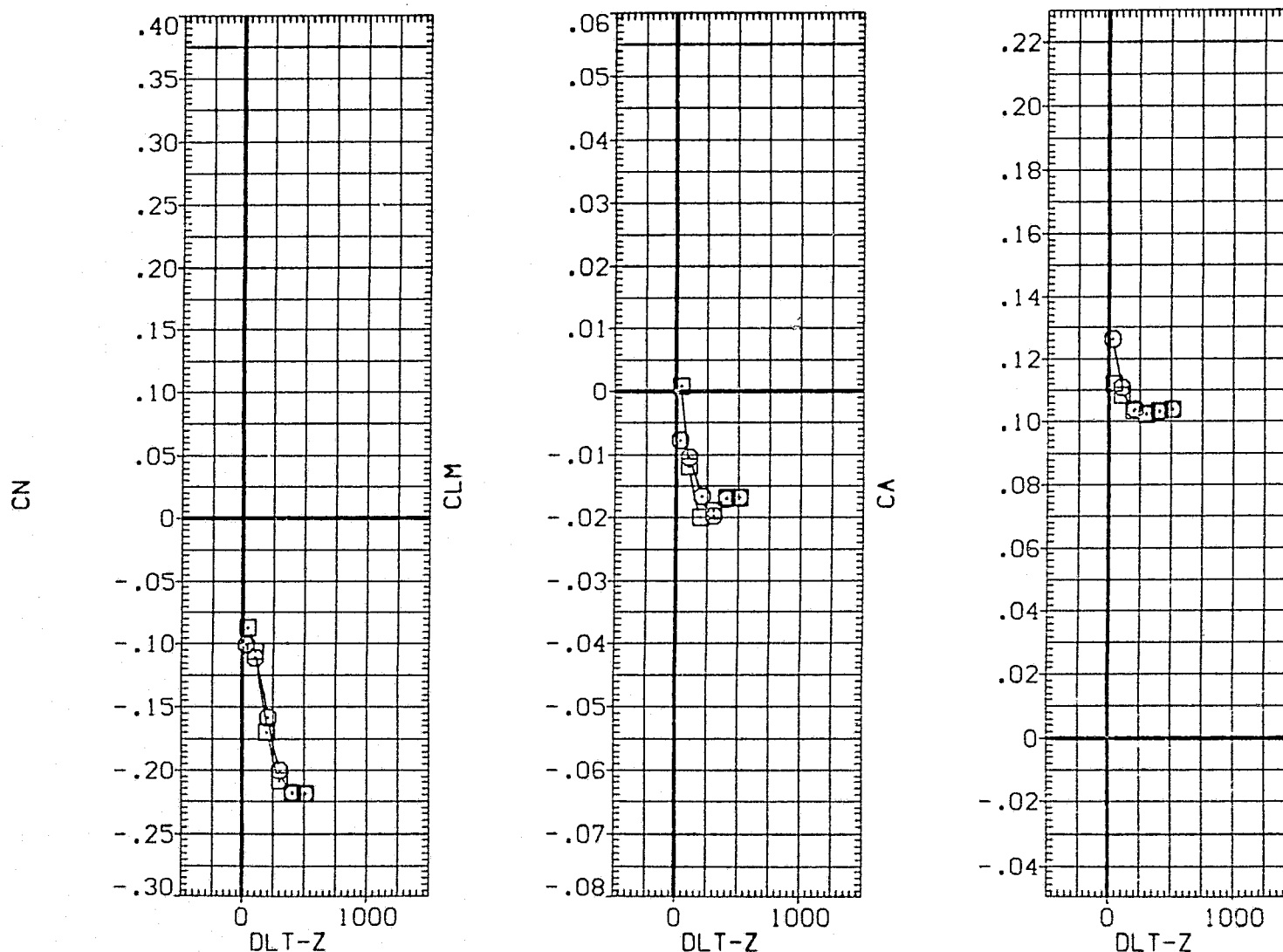


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR095)

SYMBOL	DLT-X	PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	
○	.495	BETA	.000	.000	-10.000
□	400.410	DLTBT	.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	10.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

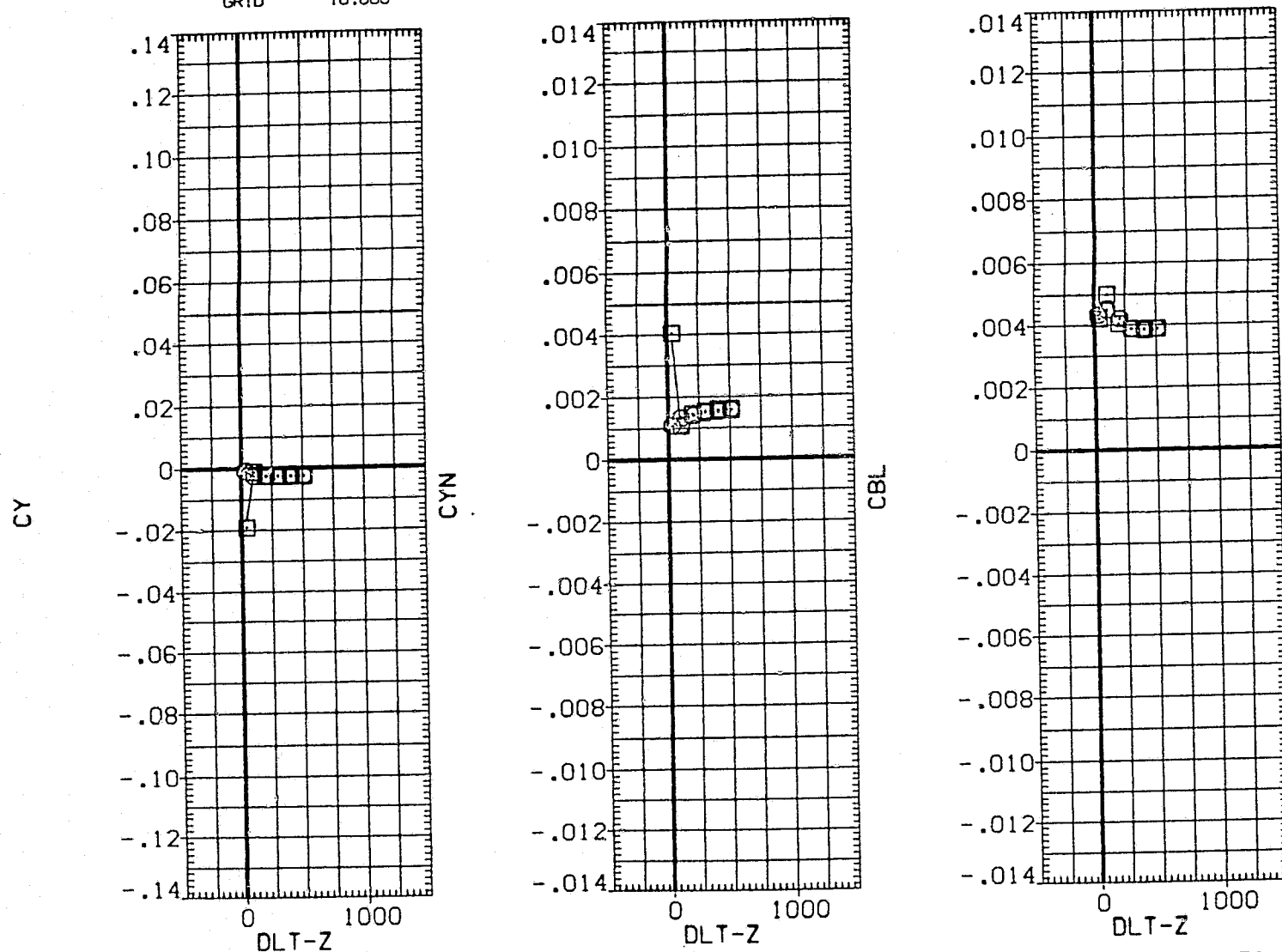


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR096)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.510	.000	ALPHA	-10.000
□	400.470	.000	DLTALF	-10.000
		.000	MACH	5.930
		15.000	ELEVON	.000
		10.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

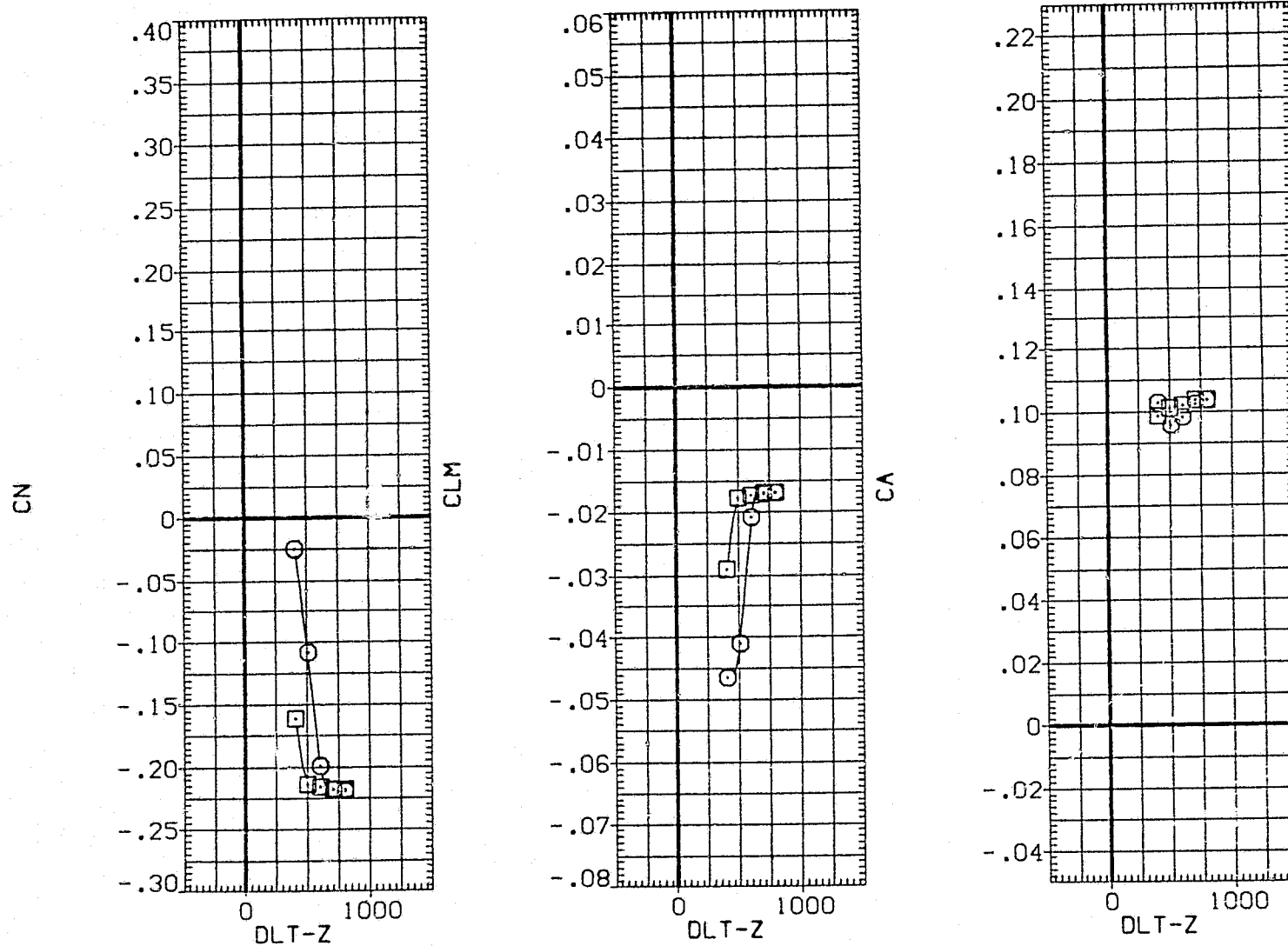


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR096)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.510		ALPHA	-10.000
□	400.470	BETA	DLTALF	-10.000
		DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		10.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

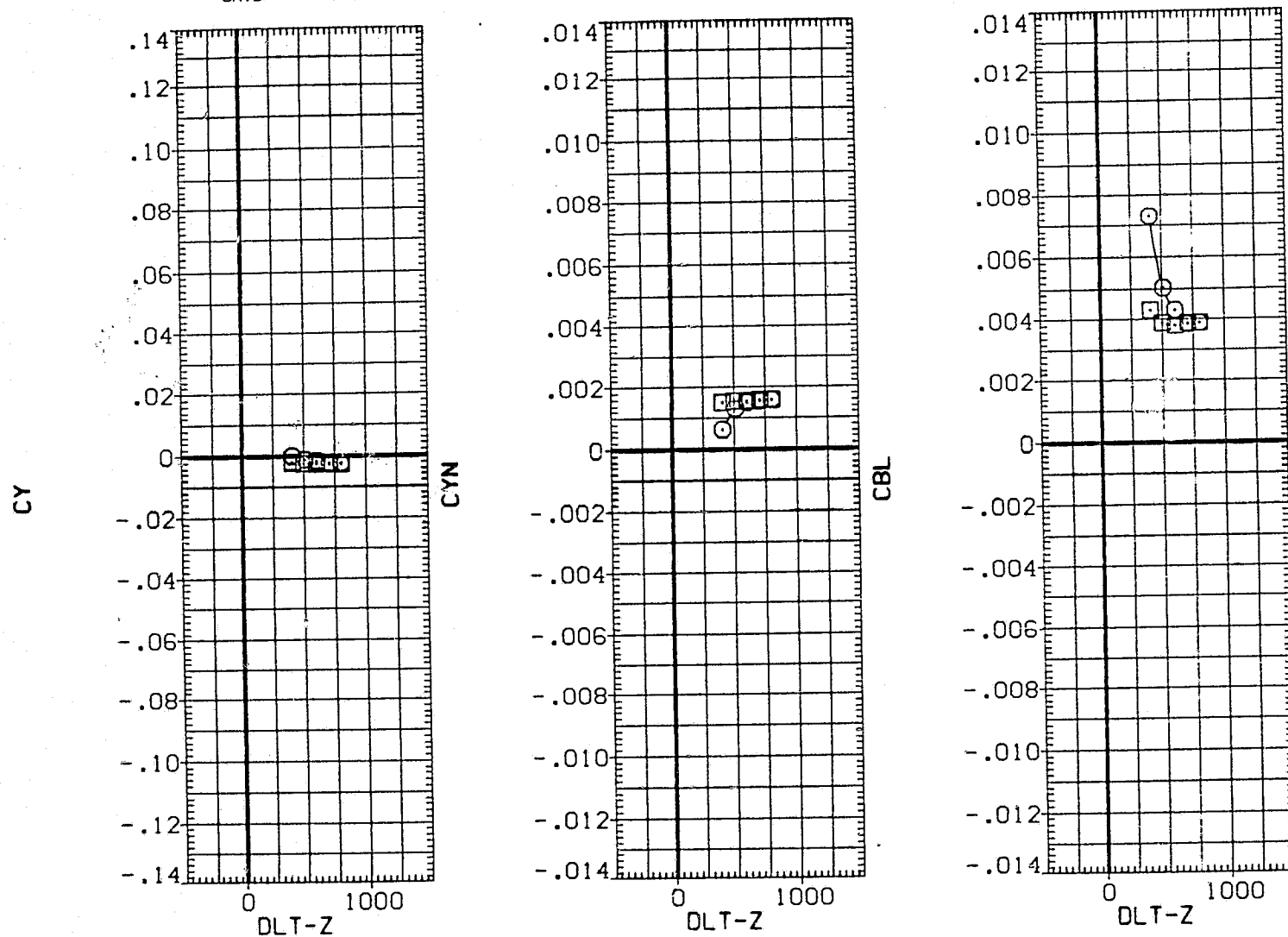


FIGURE 8 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 5.93,AILRON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR122)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.435	.000	ALPHA	.000
□	200.390	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		.000		
		16.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

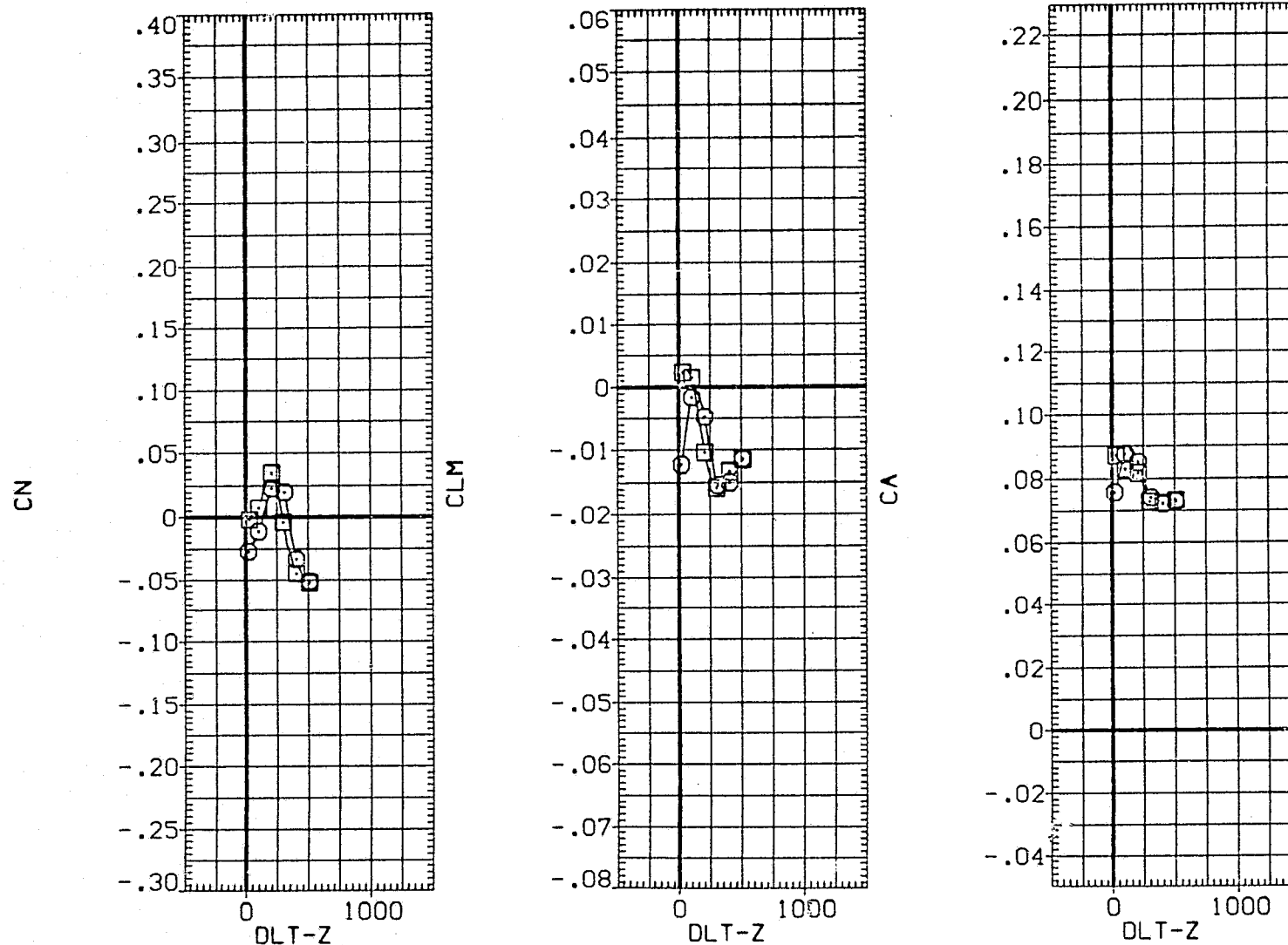


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR122)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.435	.000	BETA	.000	
□	200.390	.000	DLTBTA	.000	
		.000	AILRON	.000	
		.000	GRID	16.000	
			MACH	7.980	
			ELEVON	.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

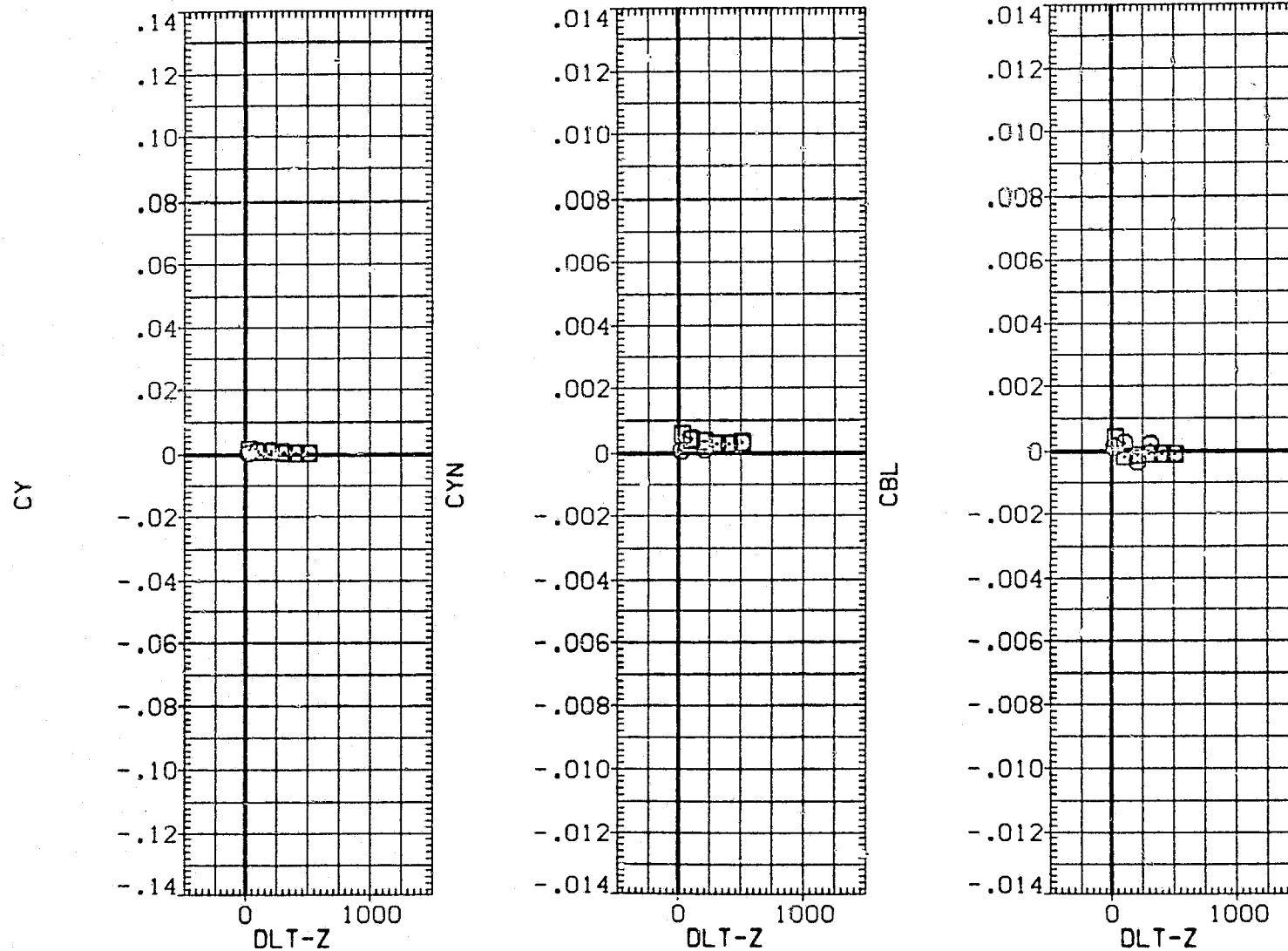


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

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AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR123)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.509		ALPHA	.000
□	200.480	BETA	DLTALF	-5.000
		DLTBTA	MACH	7.980
		AILRON	ELEVON	.000
		GRID		16.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

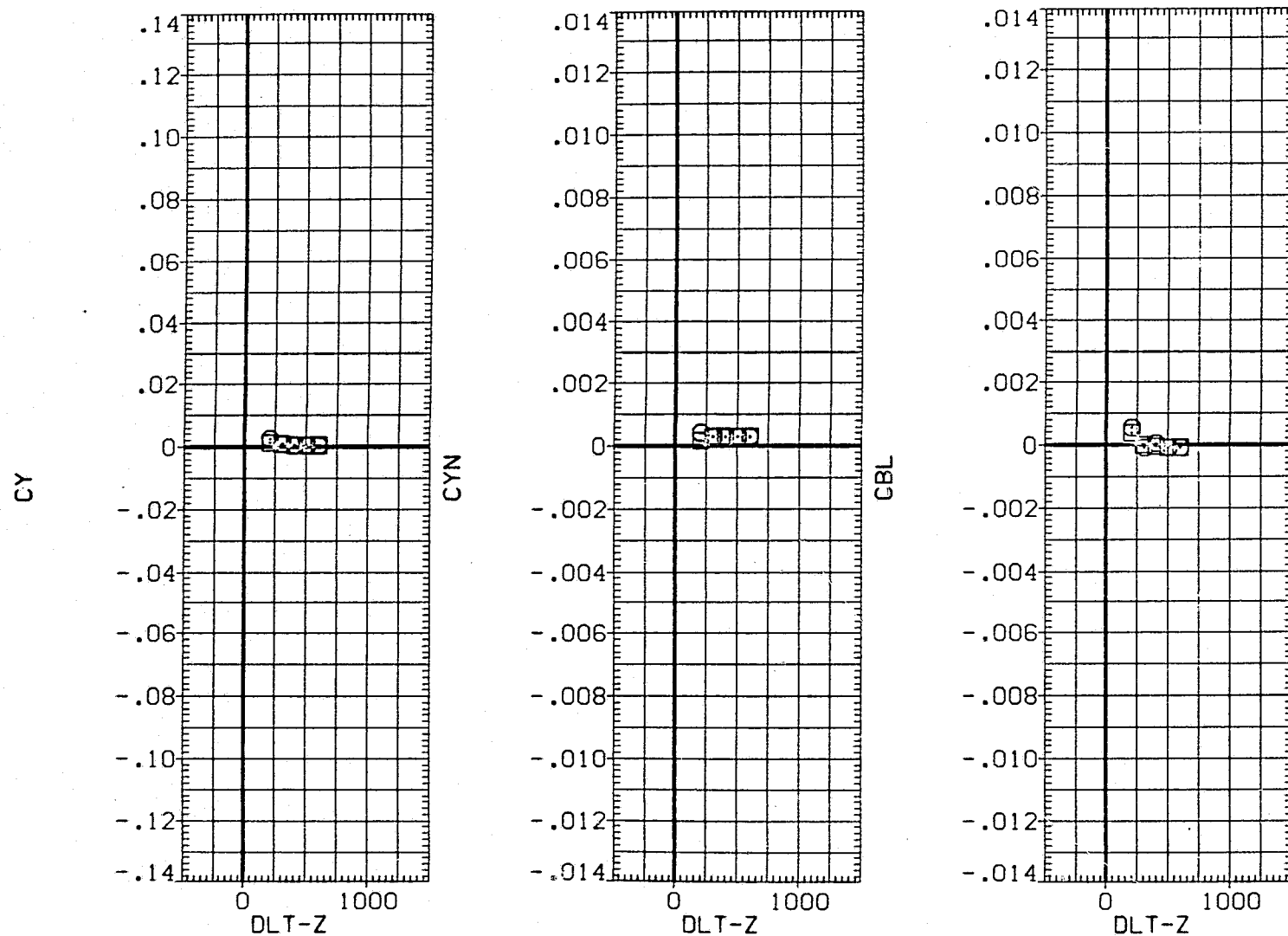


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR124)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.540	.000	.000	.000	.000	16.000	ALPHA	.000			
□	200.520	.000	.000	.000	.000		BETA	-10.000			
◇	400.480	.000	.000	.000	.000		DLTBT	7.980			
		.000	.000	.000	.000		AILRON	.000			
							GRID	16.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z3
SCALE	.0100	

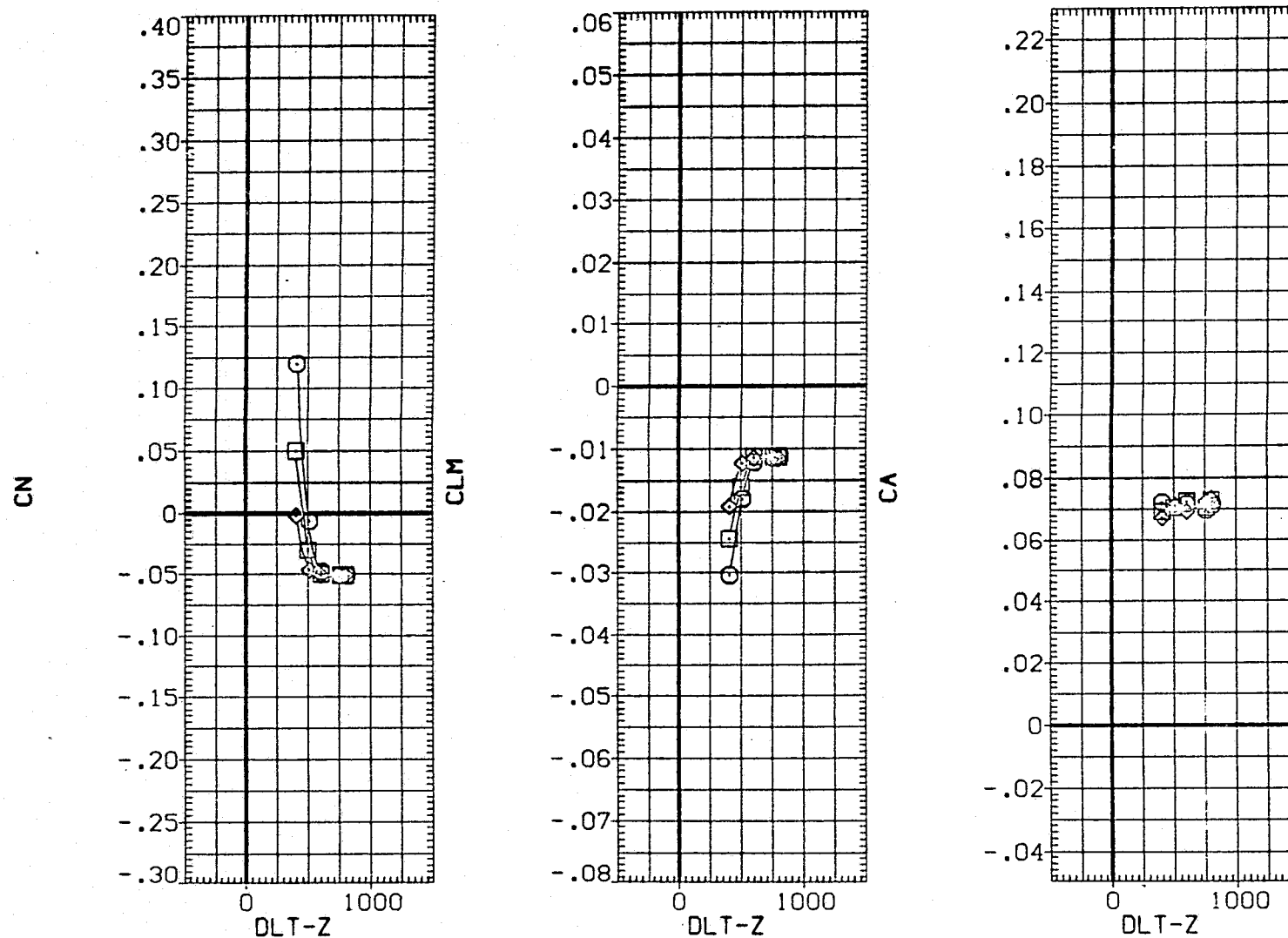


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR124)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	BETA	DLTBT	AILRON	GRID	ALPHA
○	.540	.000	.000	.000	16.000	.000
□	200.520	.000	.000	.000		-10.000
◇	400.480	.000	.000	.000		7.980
						.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
SCALE	375.0000	IN. Z0
	.0100	

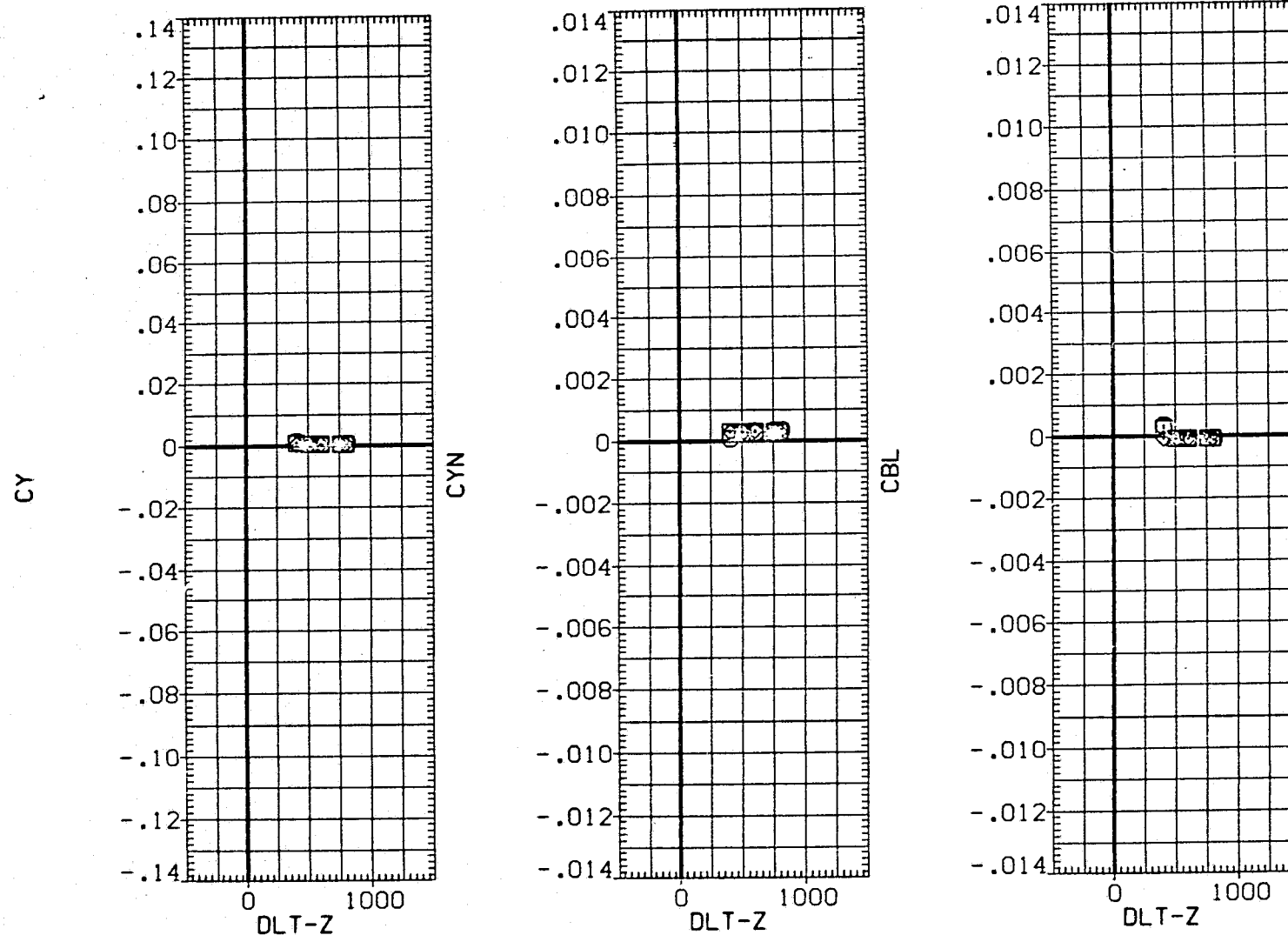


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR125)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.412	.000	ALPHA	.000
□	200.400	.000	DLTALF	-15.000
◇	400.330	.000	MACH	7.980
		.000	ELEVON	.000
		GRID	16.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

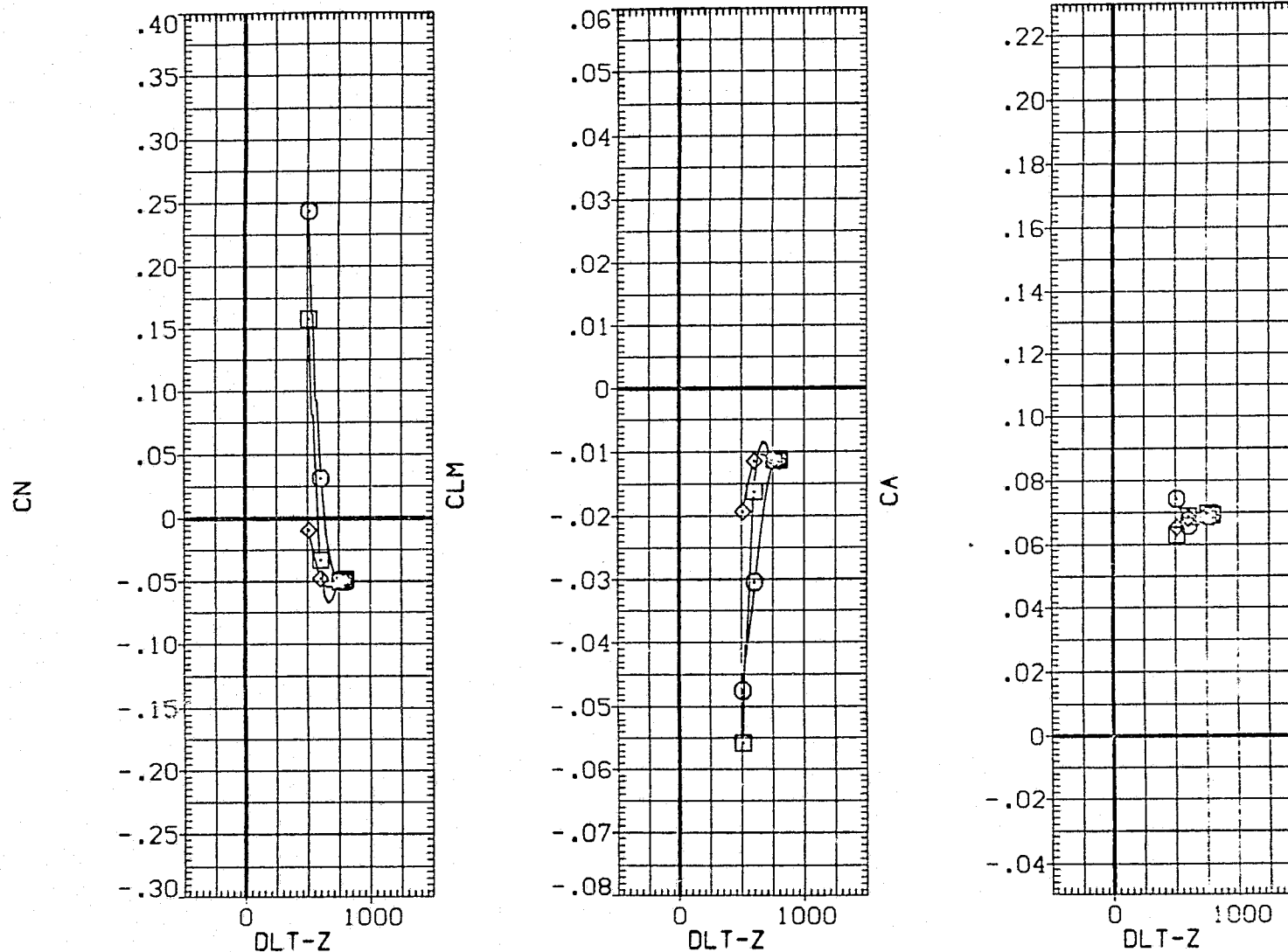


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR125)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.412	.000	ALPHA .000
□	200.400	.000	DLTALF -15.000
◇	400.330	.000	MACH 7.980
		.000	ELEVON .000
		16.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

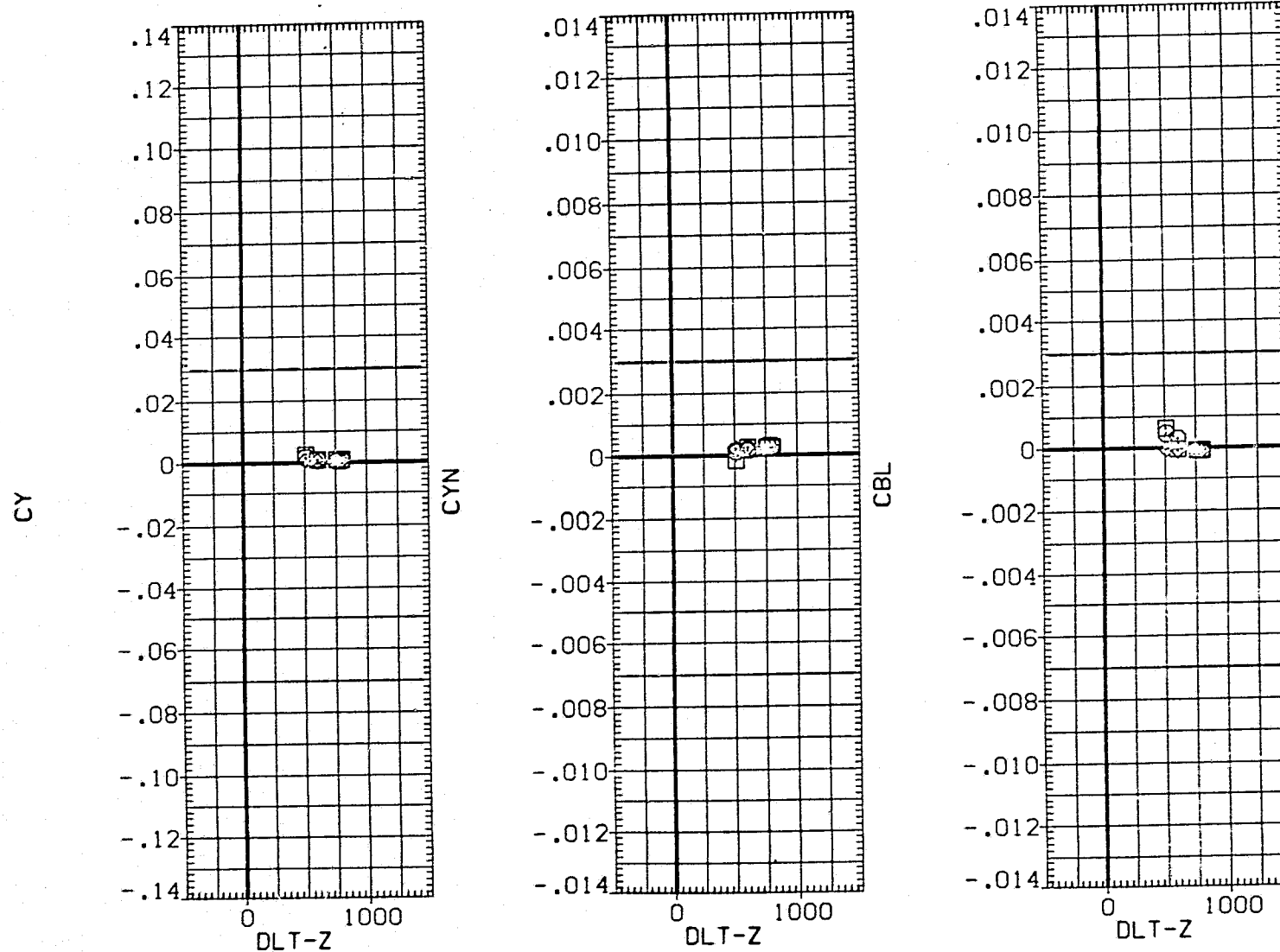


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR127)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.467	.000	ALPHA	.000
□	200.330	.000	DLTALF	-20.000
◇	400.420	.000	MACH	7.980
		.000	ELEVON	.000
		GRID	16.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XO
YMRF	.0000	IN. YO
ZMRF	375.0000	IN. ZO
SCALE	.0100	

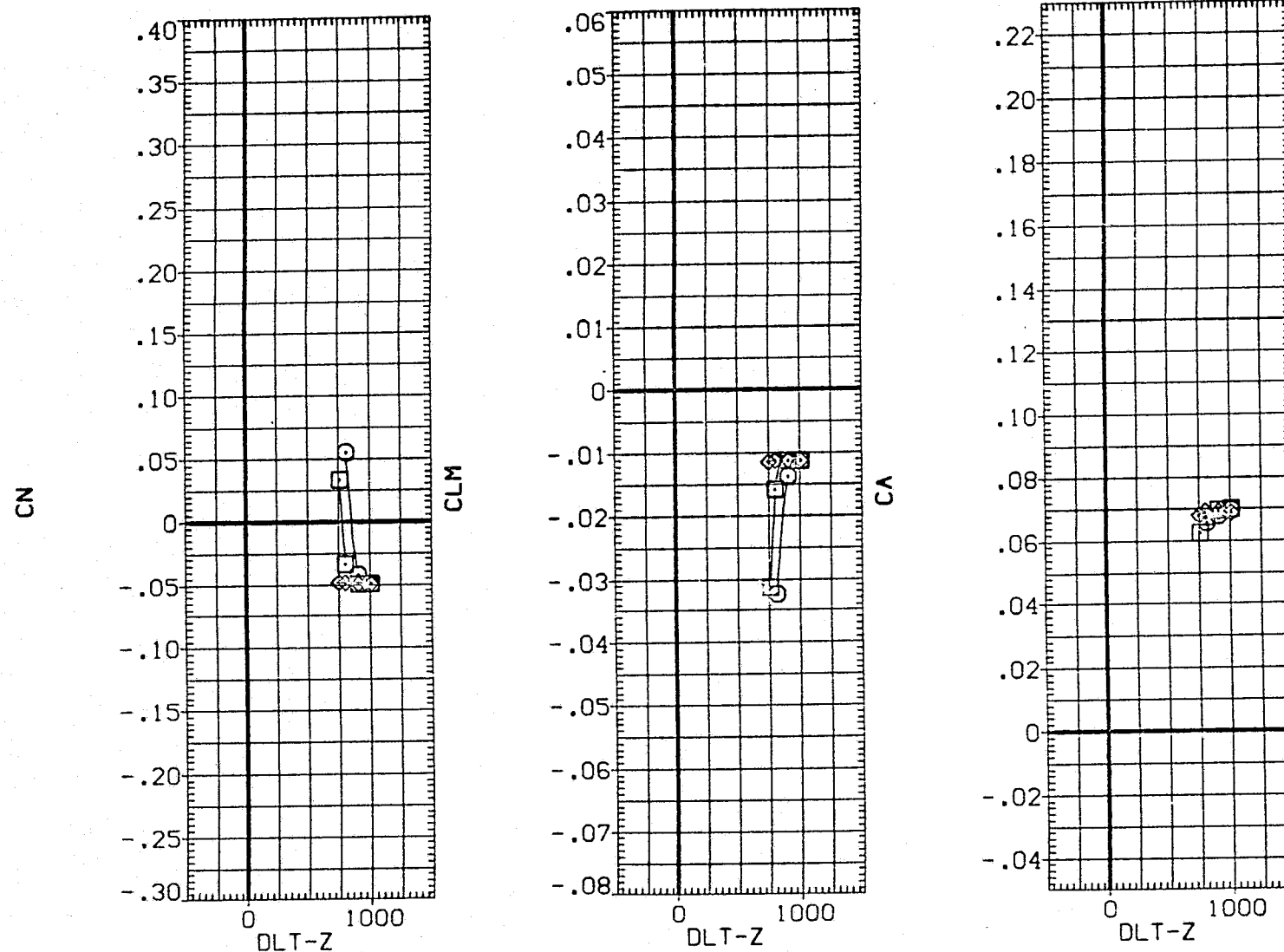


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR127)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.467	.000	BETA	.000	DLTALF
□	200.330	.000	DLTBTA	.000	MACH
◇	400.420	.000	AILRON	.000	ELEVON
		GRID	16.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

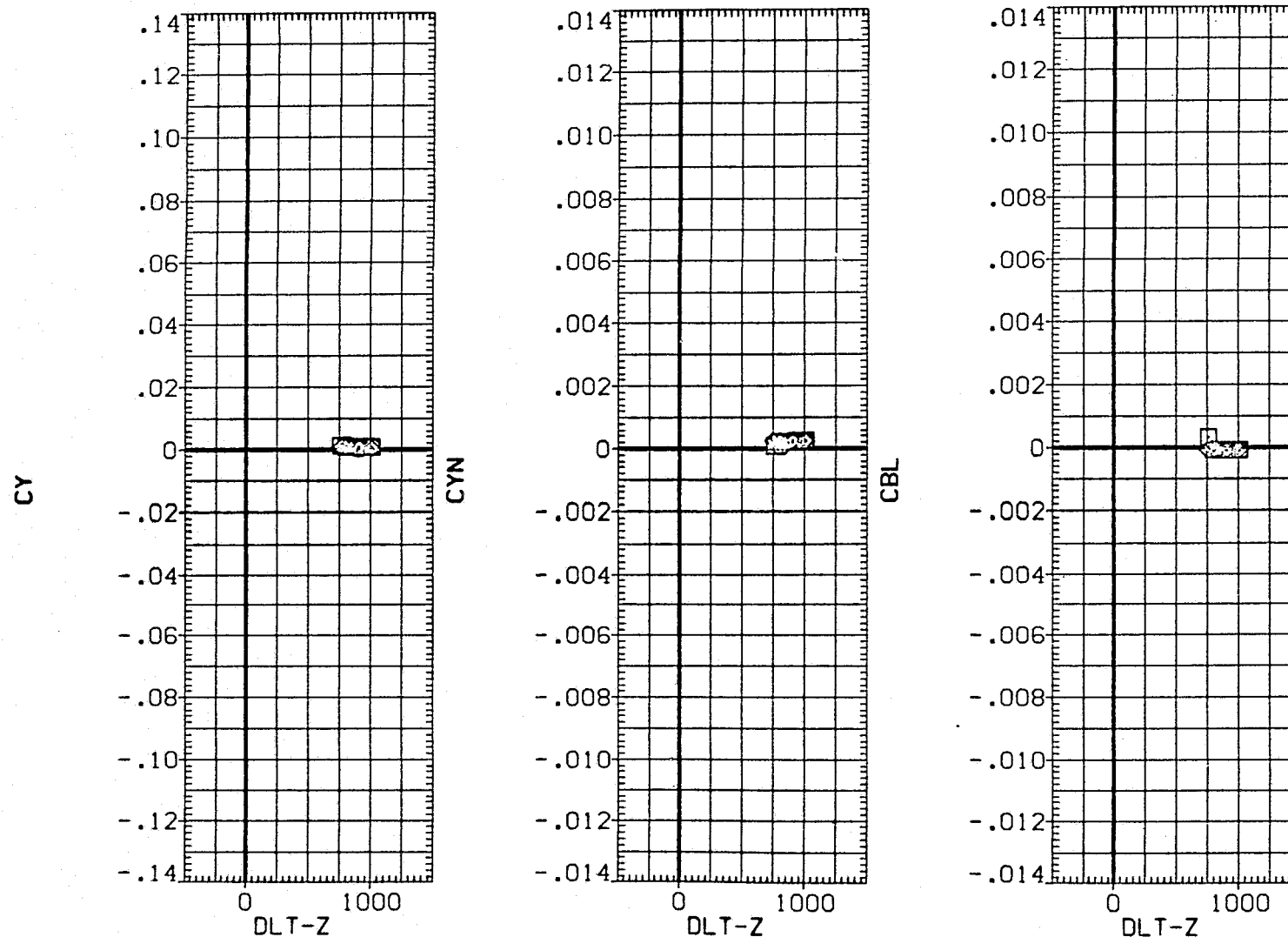


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR128)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.453	.000	ALPHA	.000
□	200.470	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		16.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

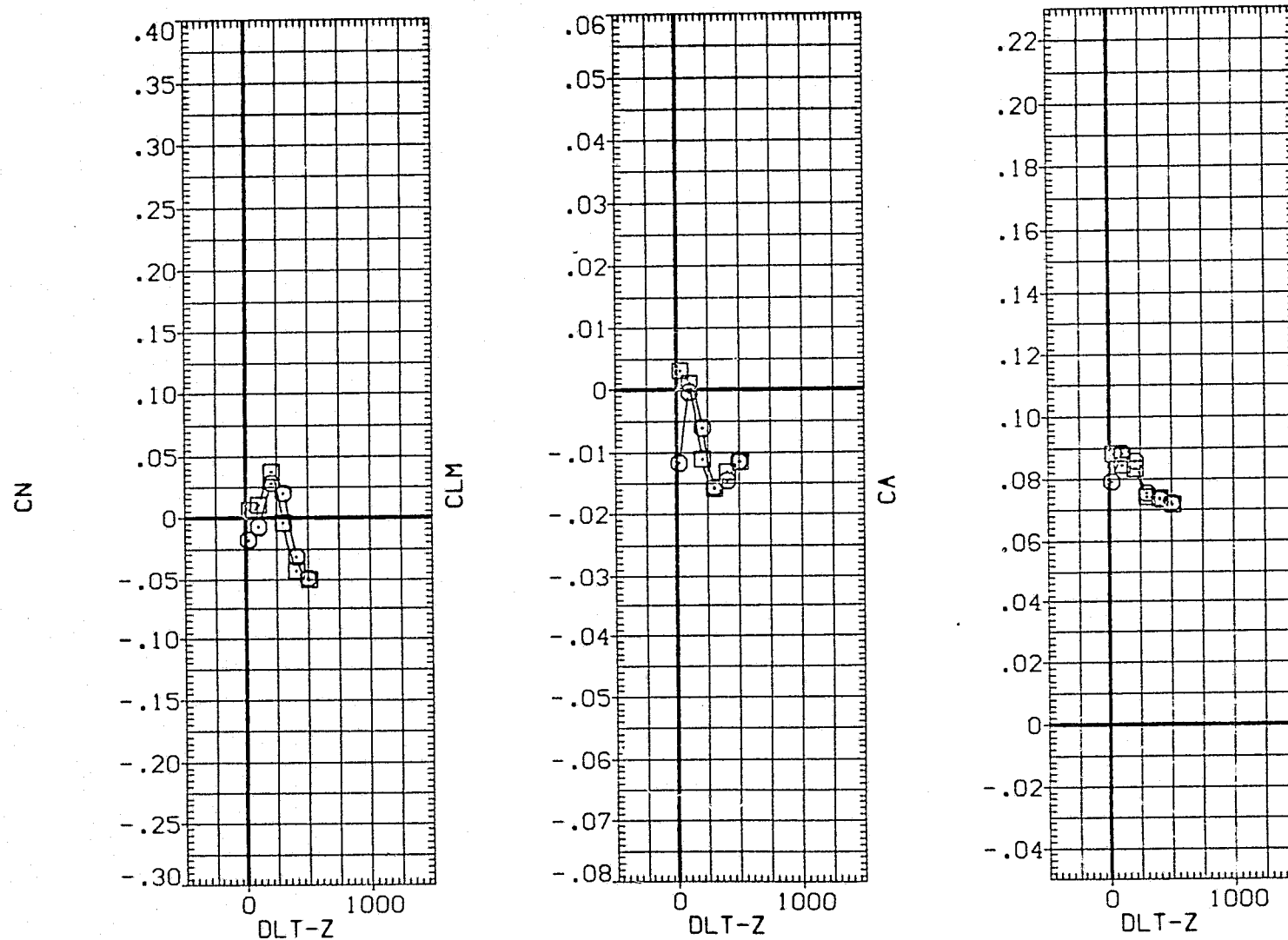


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR128)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.453	.000	ALPHA	.000
□	200.470	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		16.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

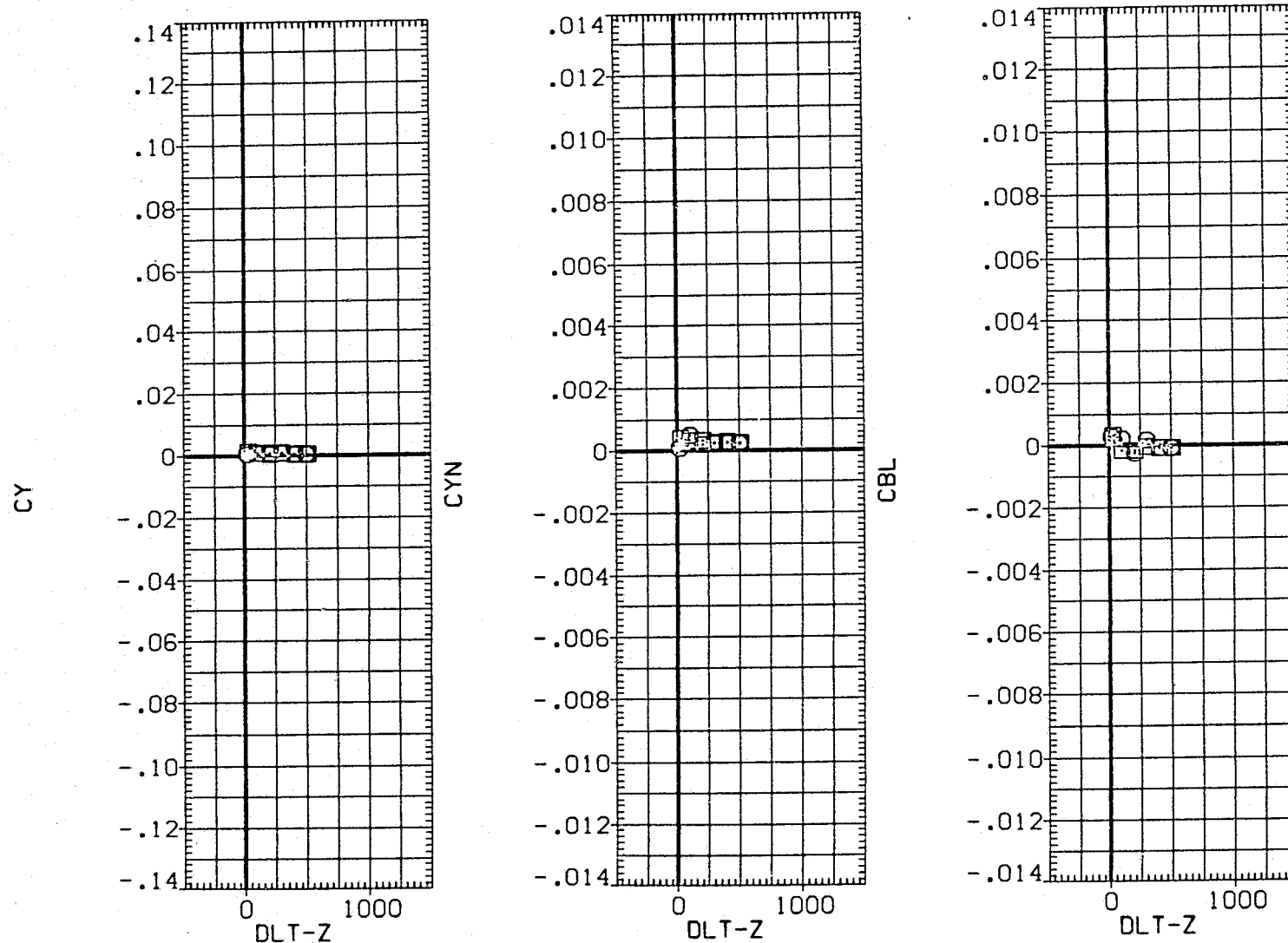


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR129)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.654		ALPHA	.000
□	200.420		DLTALF	-5.000
		BETA		7.980
		DLTBTA	MACH	.000
		AILRON	ELEVON	.000
		GRID	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1099.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

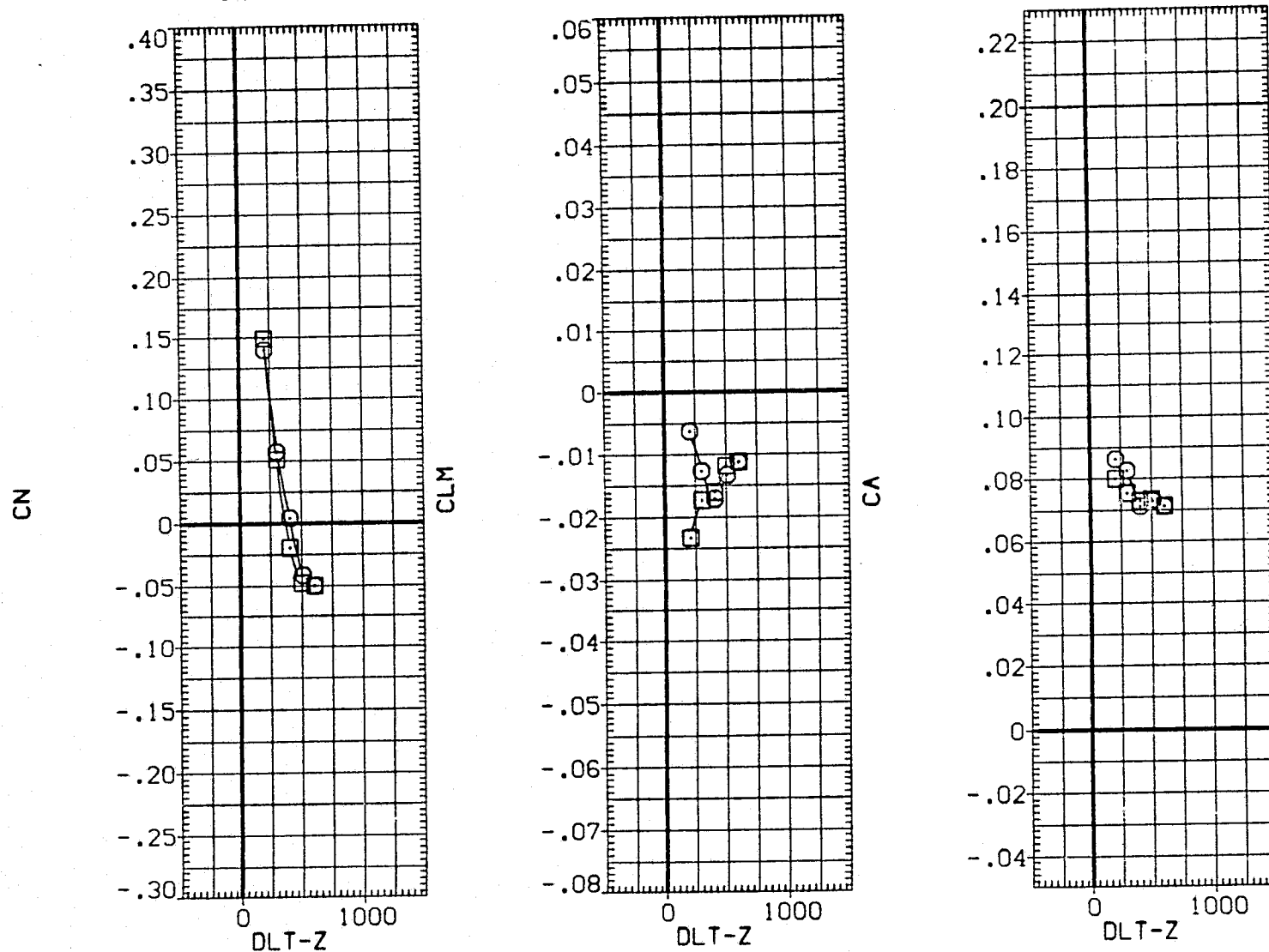


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR129)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.654	.000	ALPHA	.000
□	200.420	BETA	.000	DLTALF -5.000
		DLTBTA	.000	MACH 7.980
		AIRLON	.000	ELEVON .000
		GRID	16.000	PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

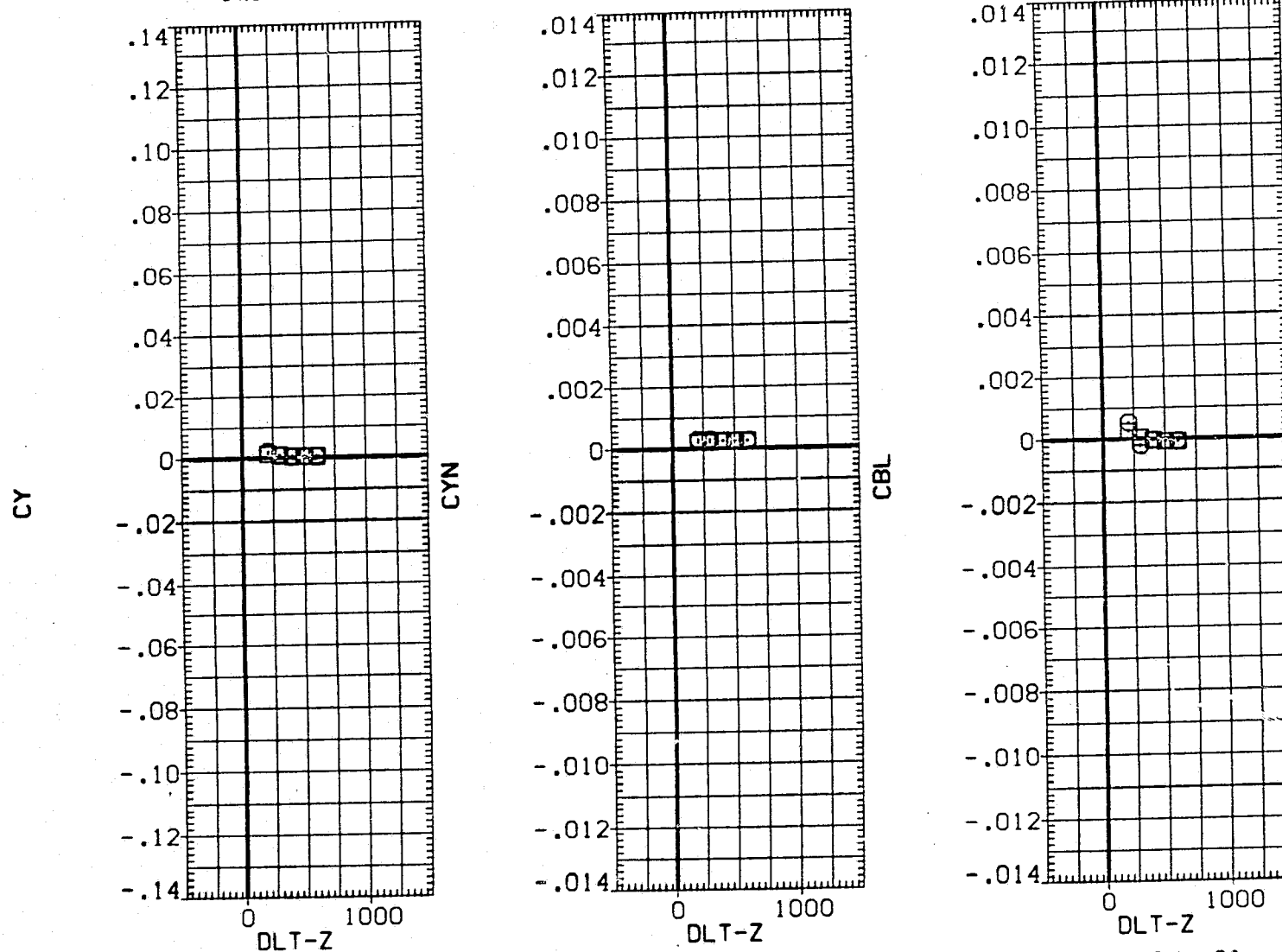


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR130)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.550	.000	DLTALF	-10.000
□	200.410	.000	MACH	7.980
◇	400.450	.000	ELEVON	.000
		ATLRON	P0	300.000
		GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

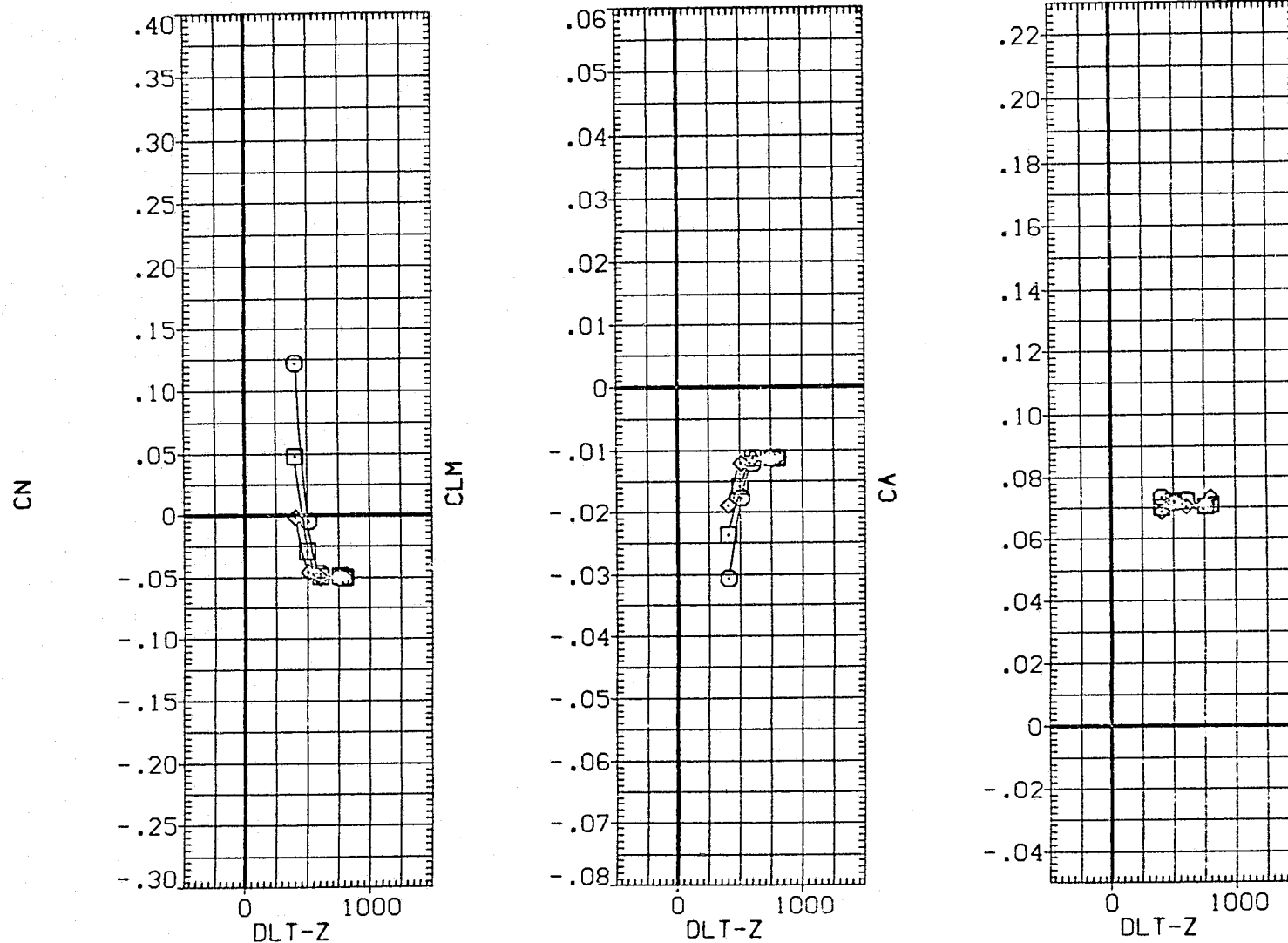


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR130)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.550	.000	ALPHA .000
□	200.410	.000	DLTALF -10.000
◇	400.450	.000	MACH 7.980
		.000	ELEVON .000
		.000	P0 300.000
		16.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LRFF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

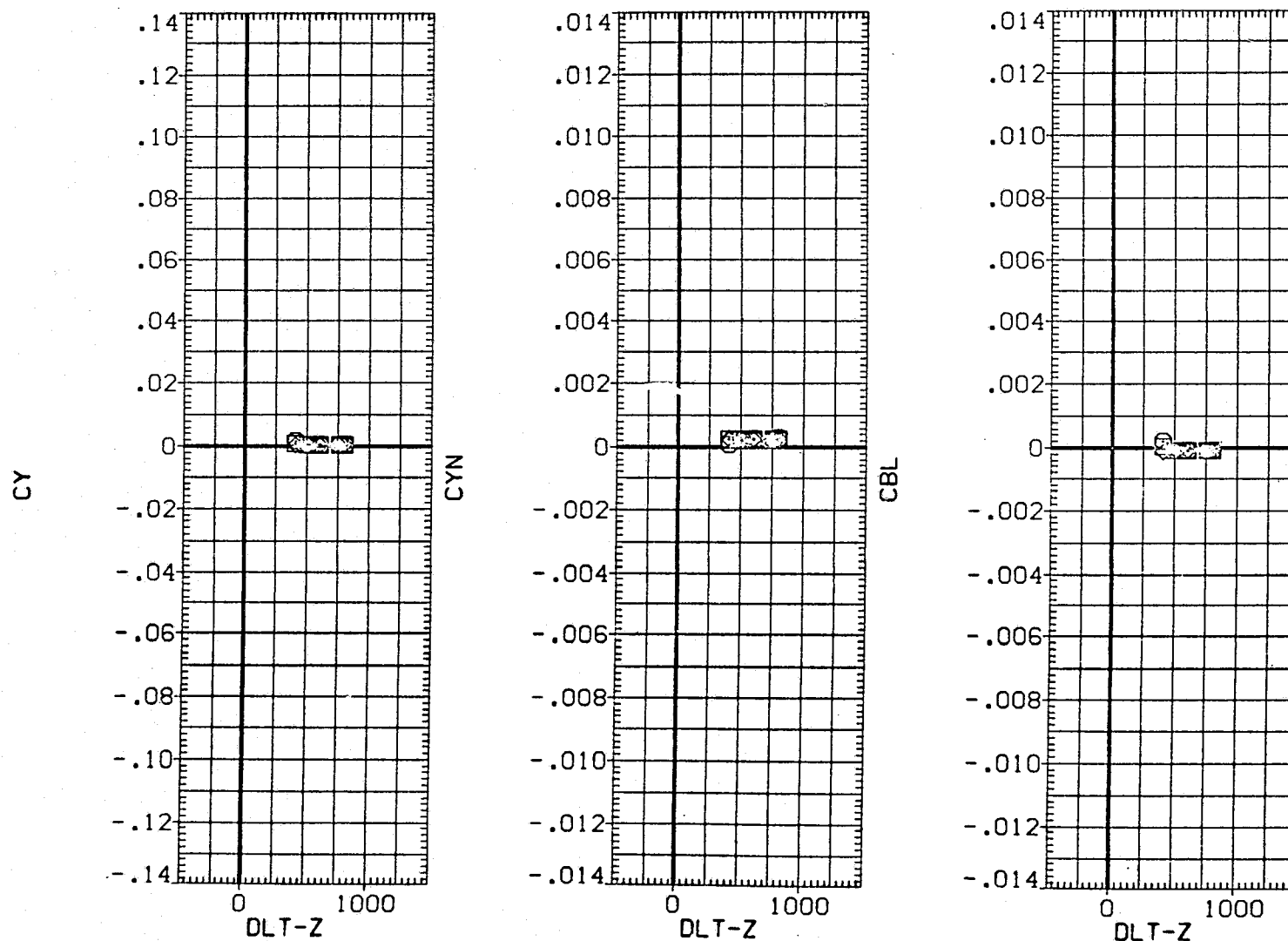


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR131)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBTBTA	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON	PO
○	.534							.000		.000		
□	200.560							.000		7.980	.000	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

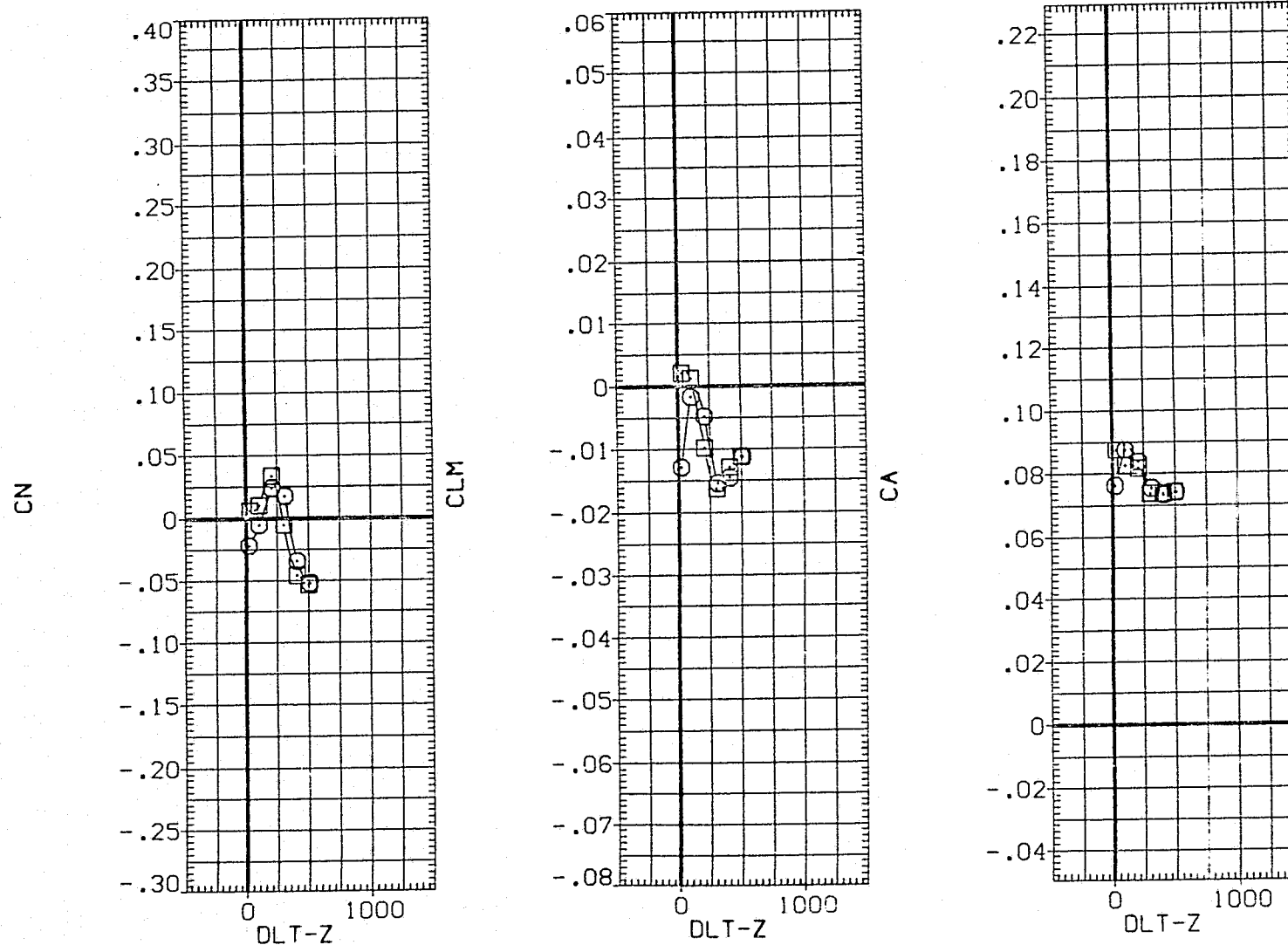


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR131)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES			
○	.534	BETA	.000	ALPHA	.000	
□	200.560	DLTBTA	3.000	DLTALF	.000	
		AIRON	.000	MACH	7.980	
		GRID	.000	ELEVON	.000	
			17.000	P0	420.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

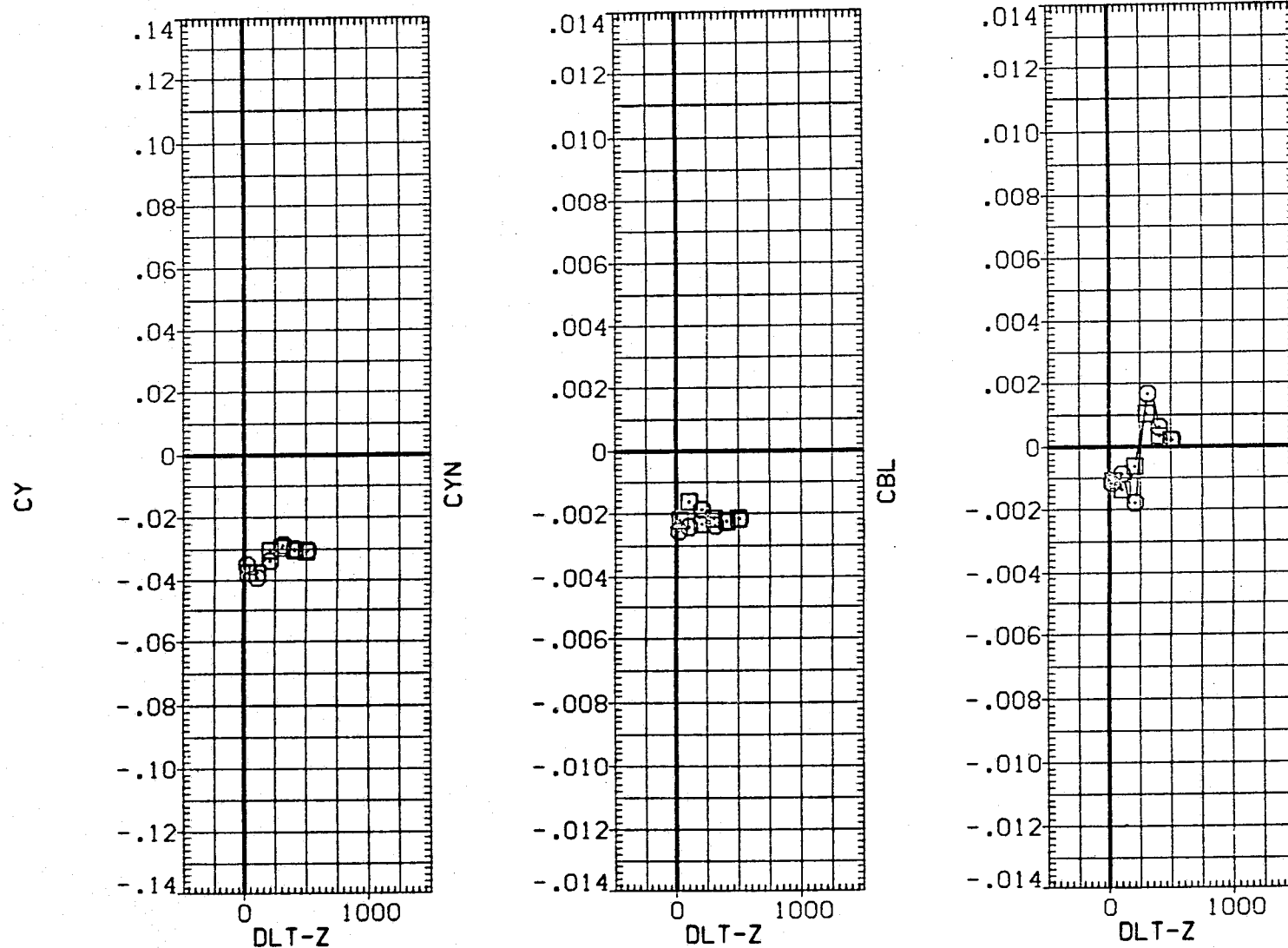


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR132)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.605	.000	BETA	3.000	DLTALF
□	200.550	.000	DLTBTN	.000	MACH
		.000	AILRON	.000	ELEVON
		17.000	GRID	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

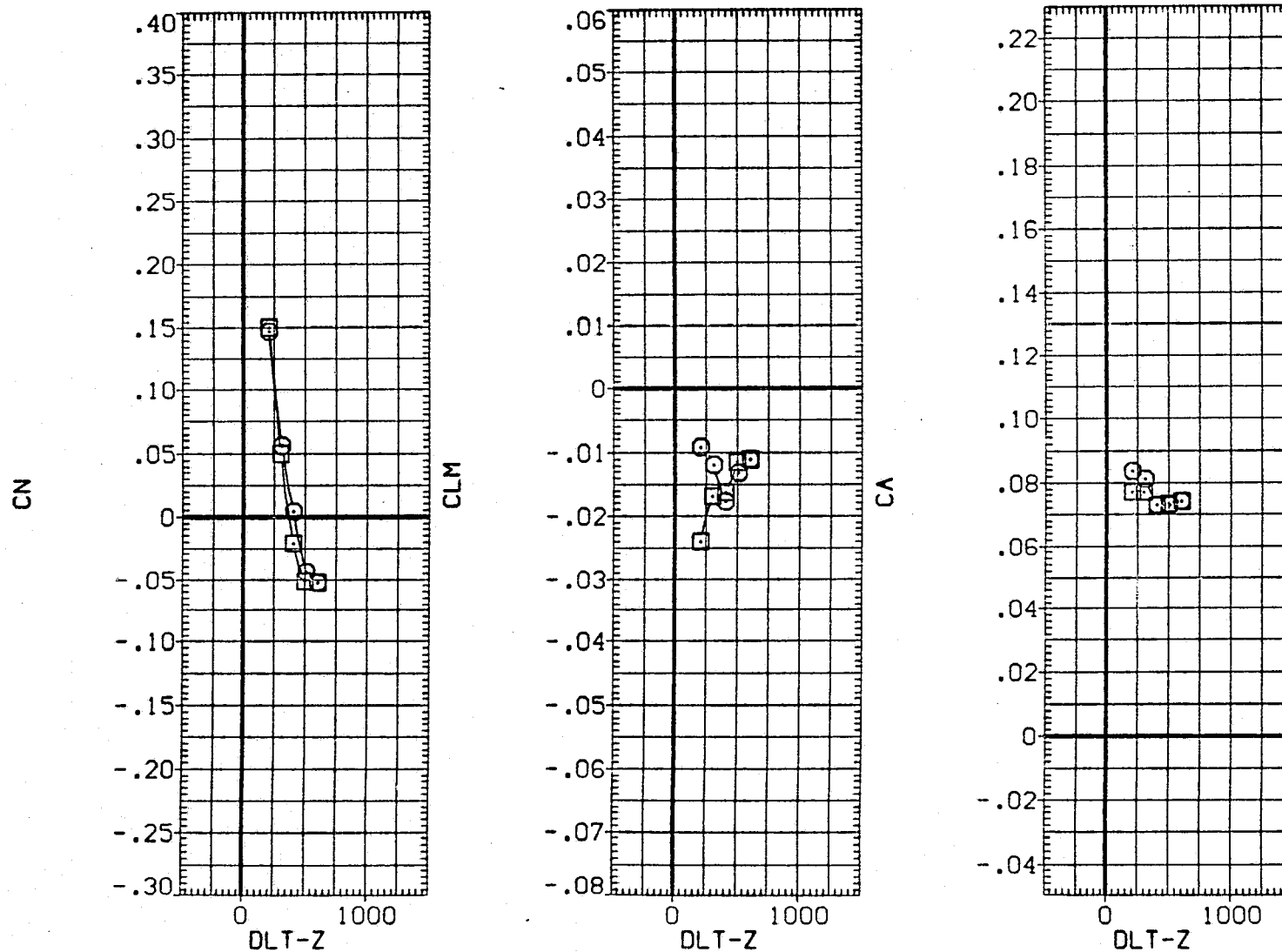


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR132)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	ALPHA	DLTALF	MACH	ELEVON
○	.605	BETA	.000	-5.000	7.980	.000
□	200.550	DLTBTA	3.000	.000	.000	420.000
		AILRON	.000	PO		
		GRID	17.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

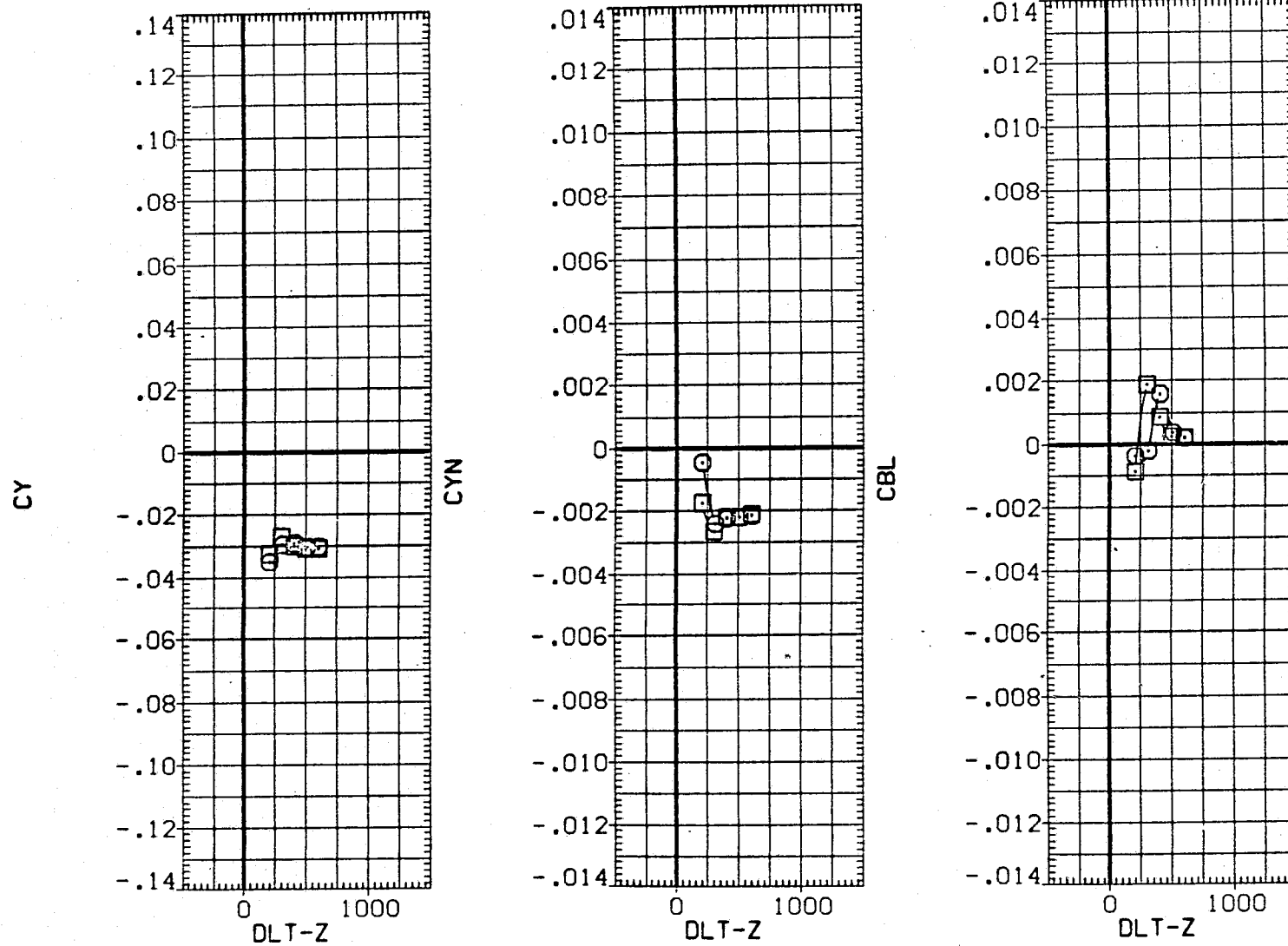


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR133)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.563		ALPHA	.000
□	200.480	BETA	3.000	DLTALF -10.000
◇	400.400	DLTBTA	.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	17.000	PG 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

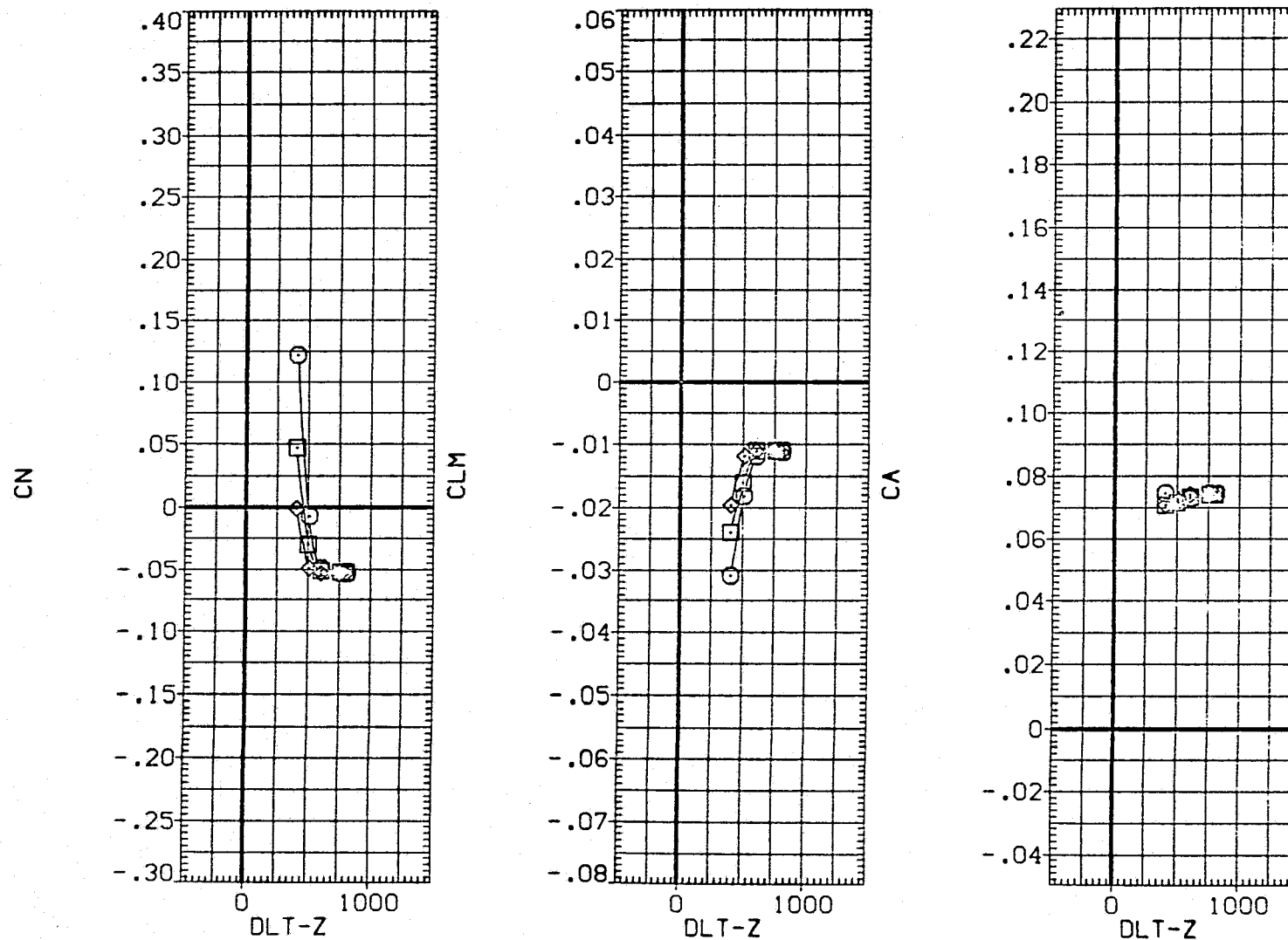


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR133)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.563	BETA	.000	-10.000
□	200.480	DLTBTBTA	3.000	7.980
◇	400.400	AIRLON	.000	ELEVON
		GRID	17.000	PG
				420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

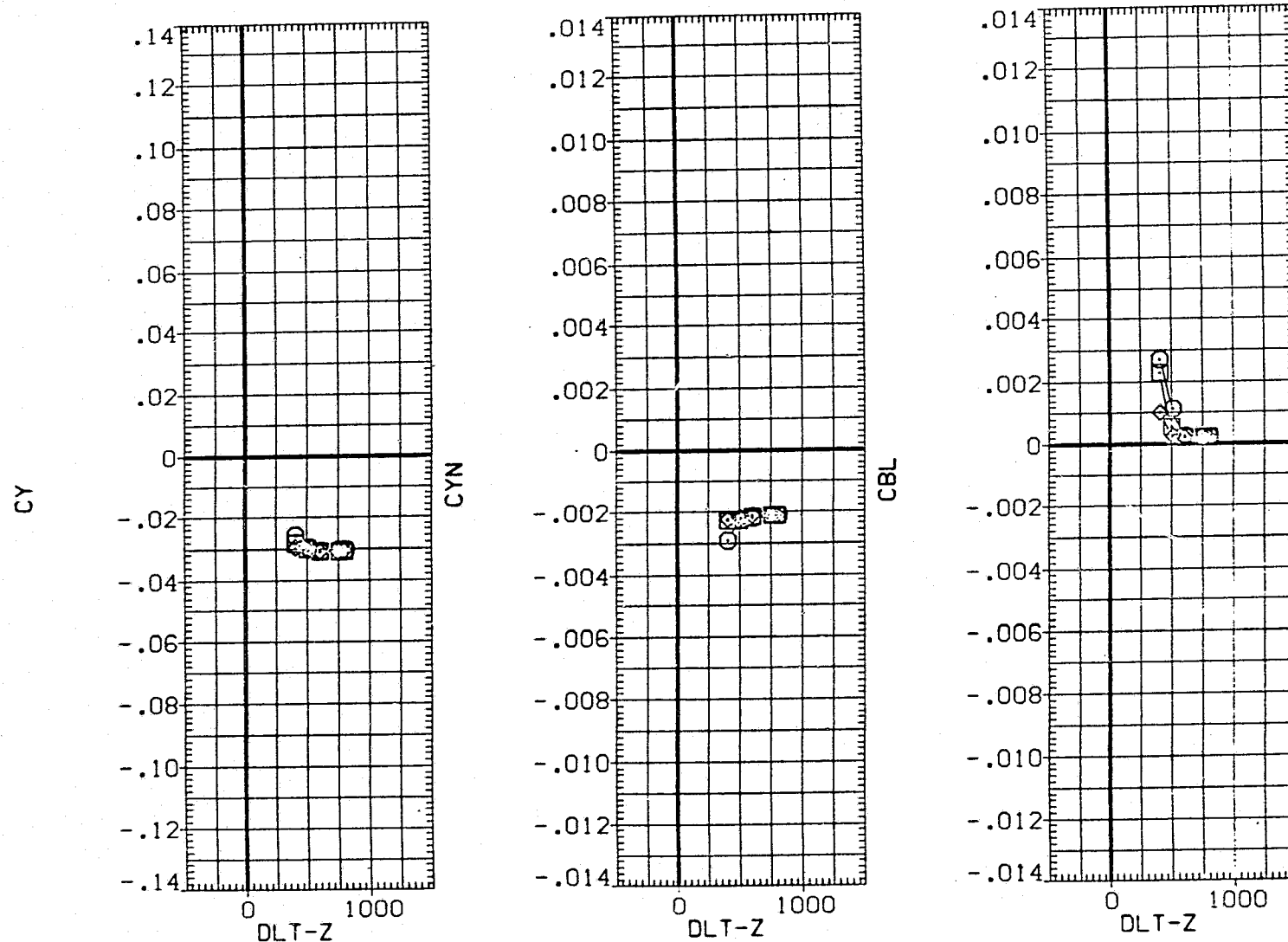


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR134)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.460	.000	ALPHA	.000
□	200.420	BETA	3.000	DLTALF -15.000
◇	400.330	DLTBTA	.000	MACH 7.980
		ATLRON	.000	ELEVON .000
		GRID	17.000	PO 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

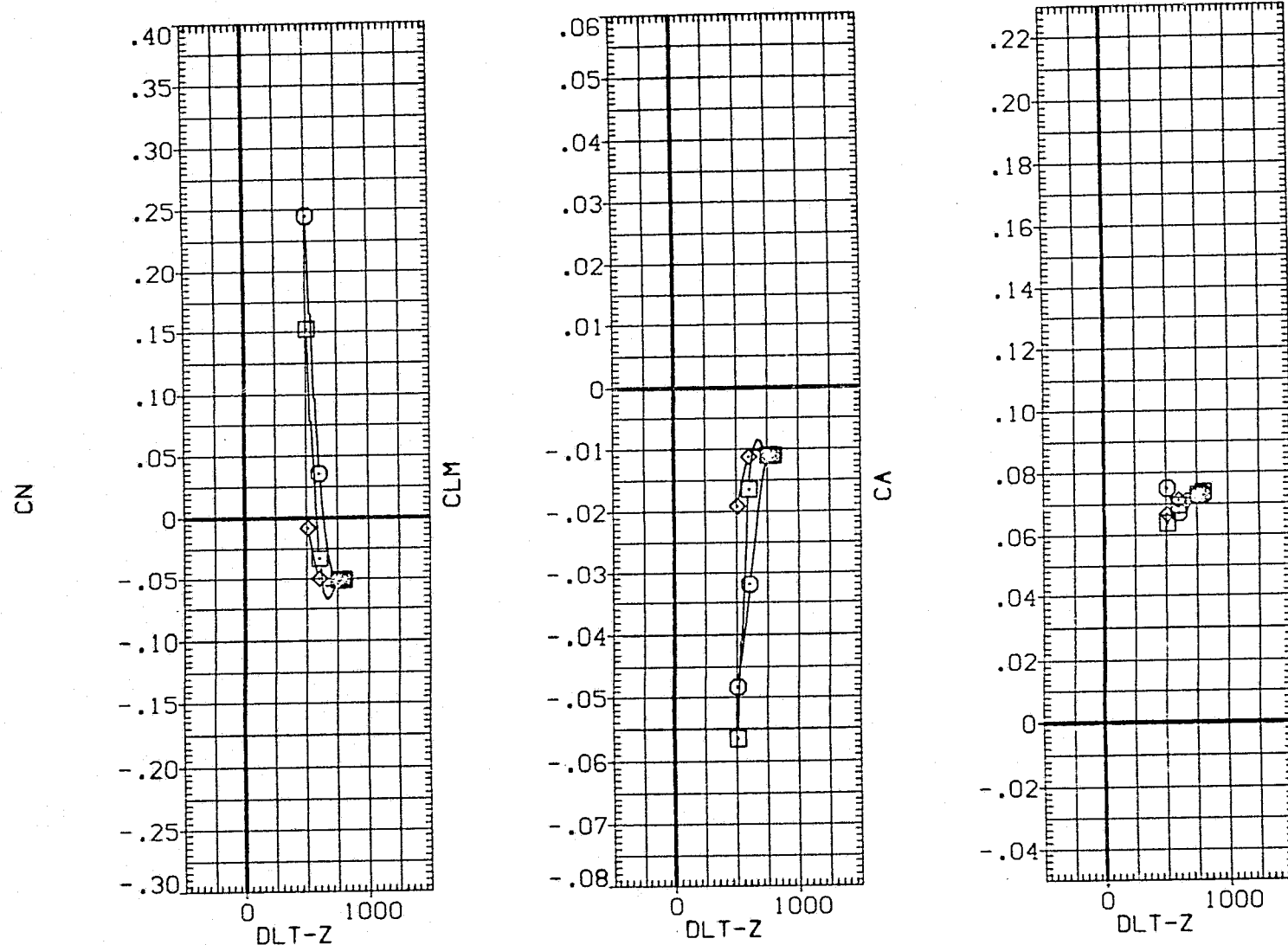


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR134)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.460	.000	ALPHA .000
□	200.420	BETA 3.000	DLTALF -15.000
◇	400.330	DLTBTA .000	MACH 7.980
		ATLRON .000	ELEVON .000
		GRID 17.000	P0 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

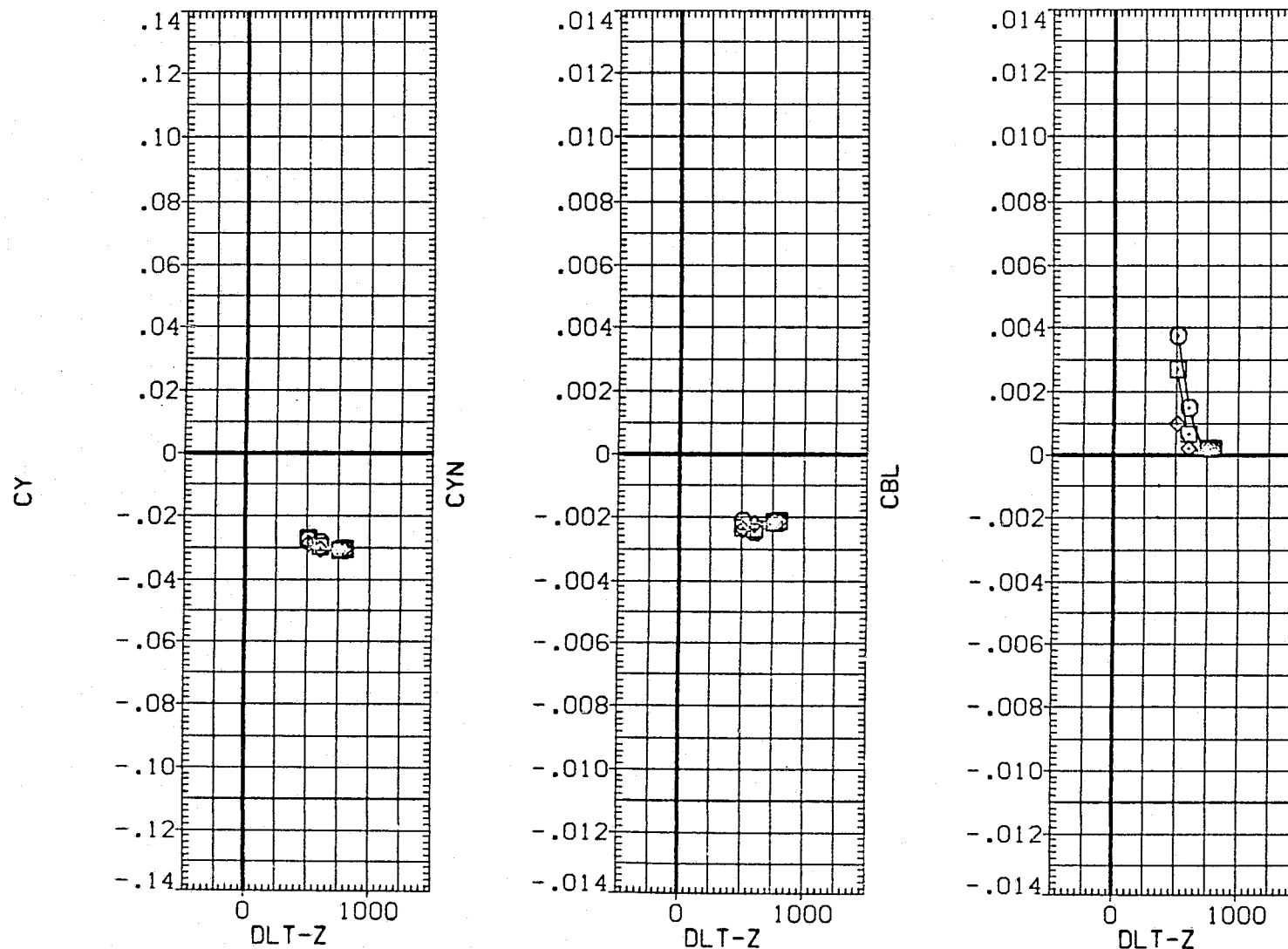


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR136)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.550	.000		.000
□	200.370	BETA 3.000	DLTALF	-20.000
◇	400.370	DLTBTA .000	MACH	7.990
		AILRON .000	ELEVON	.000
		GRID 17.000	PO	420.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

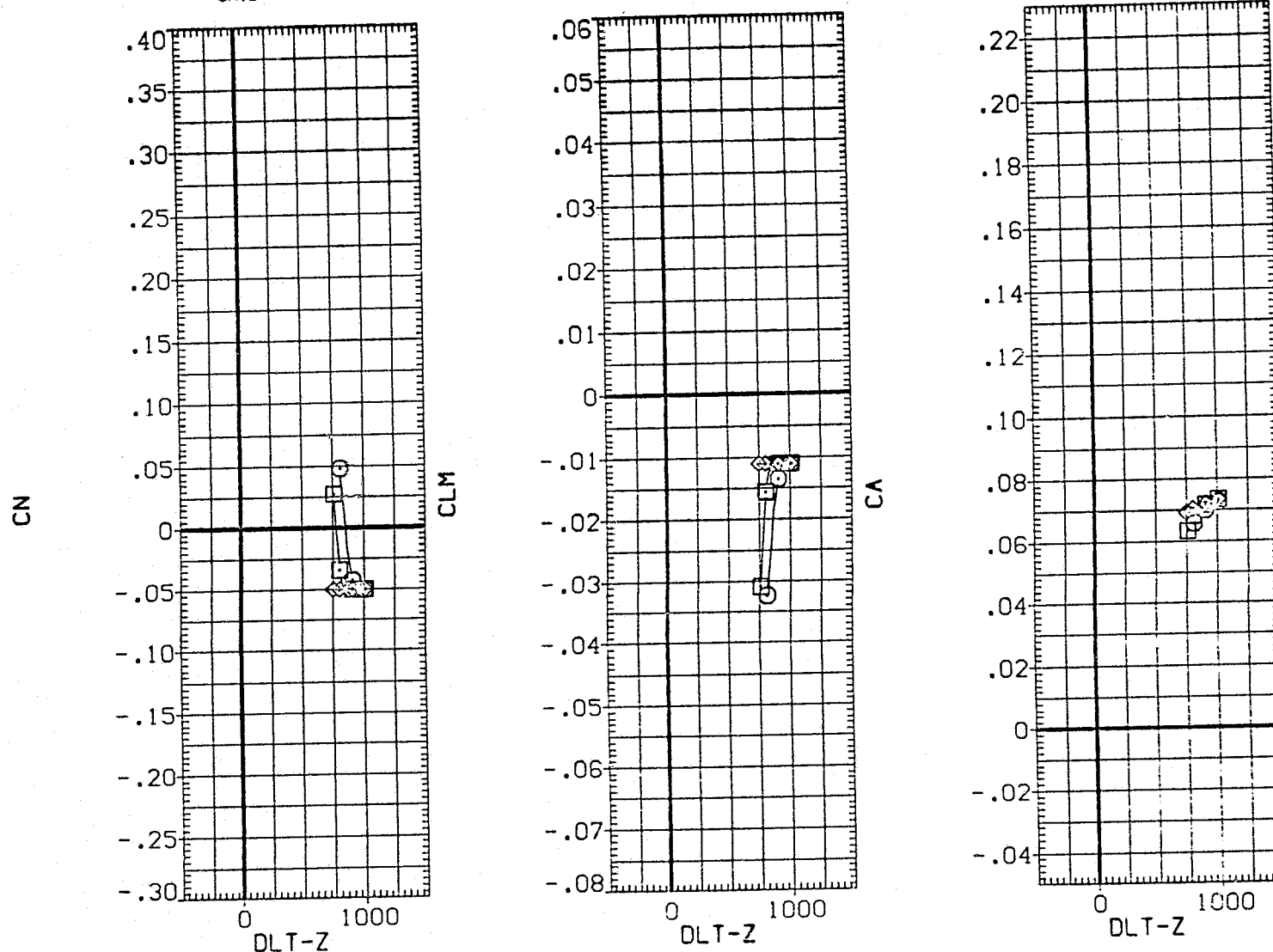


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR136)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.550	.000	ALPHA .000
□	200.370	BETA 3.000	DLTALF -20.000
◇	400.370	DLTBTA .000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 17.000	PO 420.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

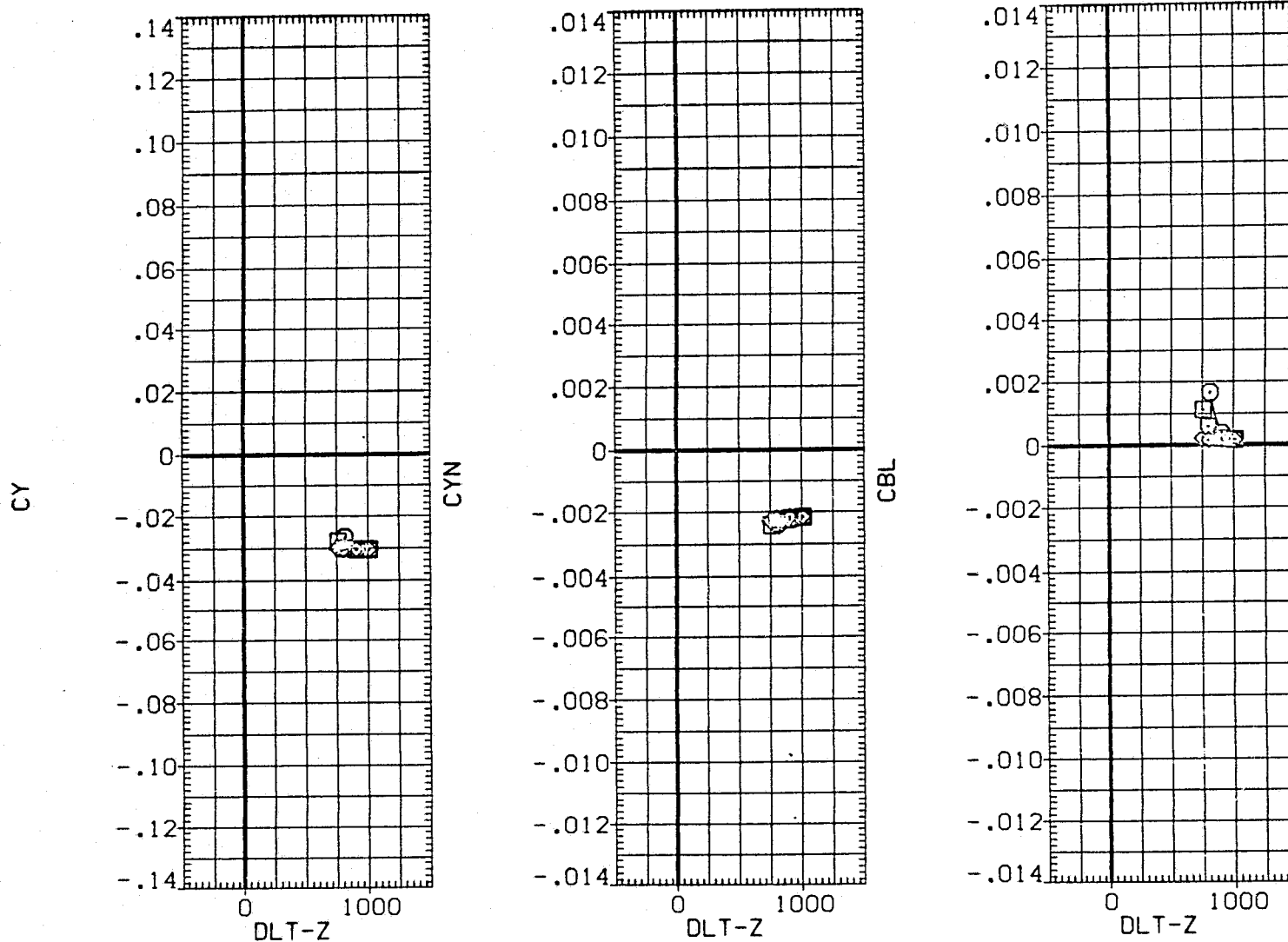


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR177)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.494		.000	5.000	
□	200.630	BETA	.000	DLTALF	.000
		DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	24.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

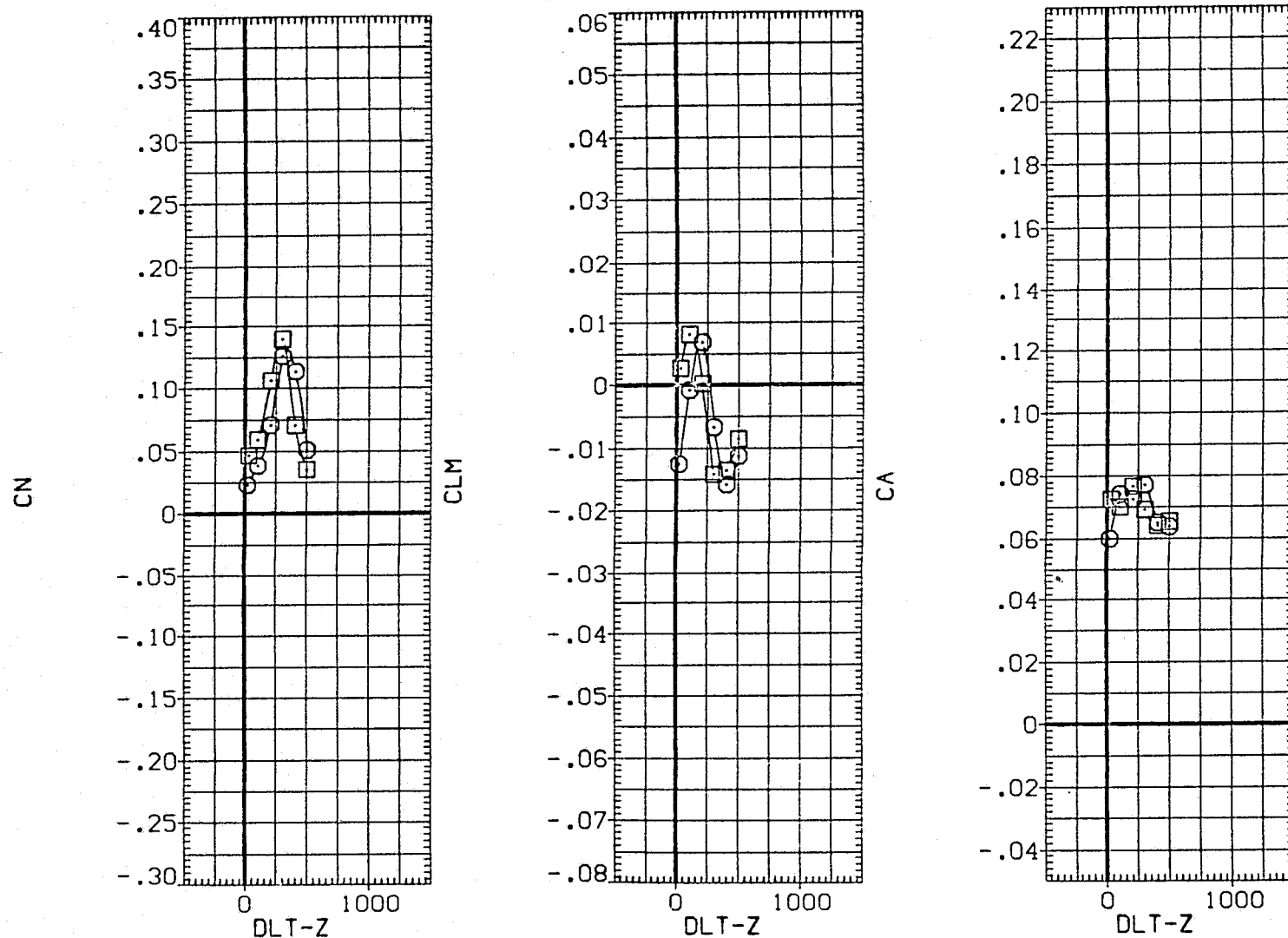


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR177)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.494	.000	ALPHA	5.000
□	200.630	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		.000	P0	300.000
		24.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

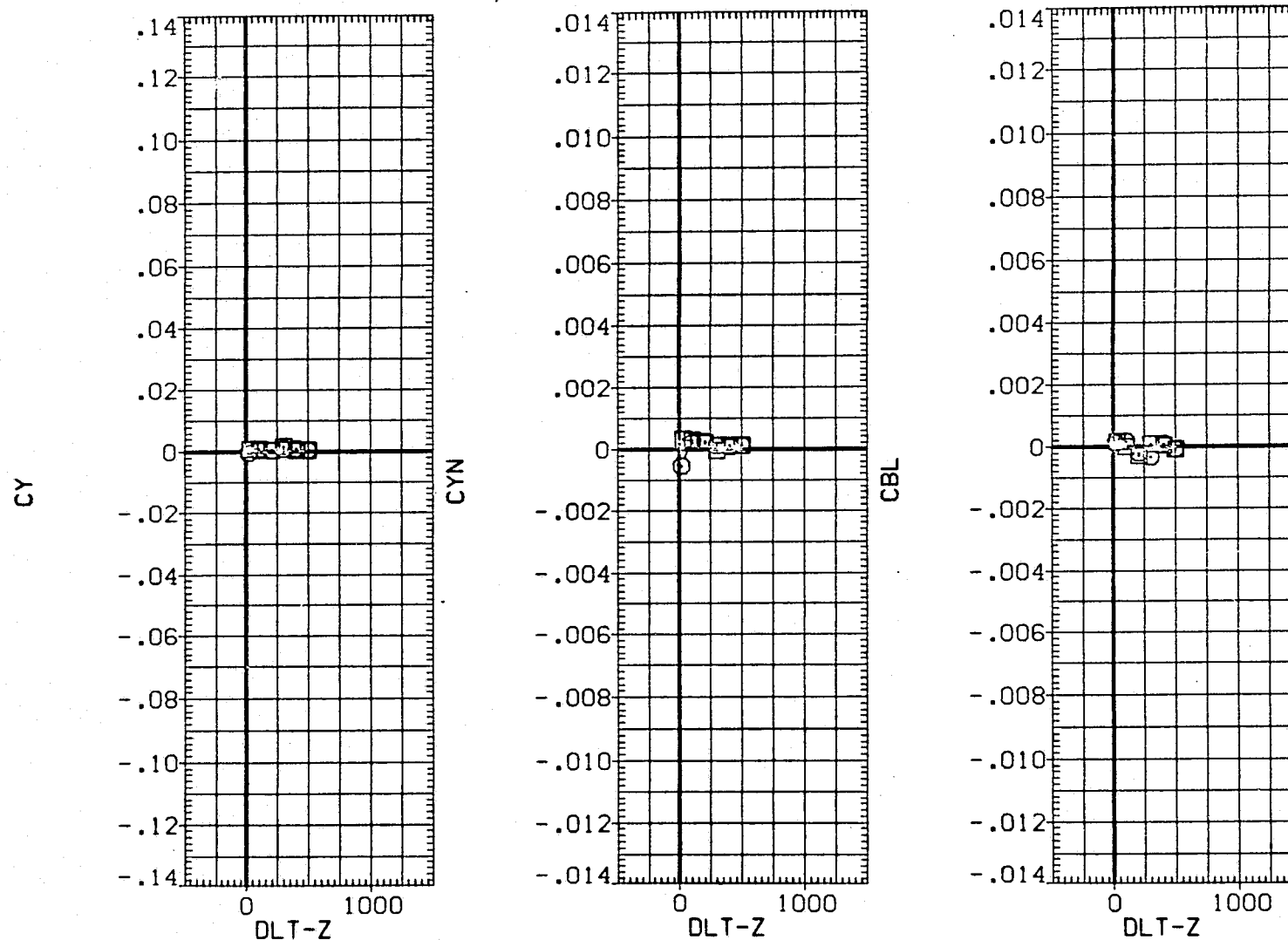


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR178)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	○	.472	DLT-Y	.000	ALPHA	5.000
	□	200.400	BETA	.000	DLTALF	-5.000
			DLTBTA	.000	MACH	7.980
			AILRON	.000	ELEVON	.000
			GRID	24.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

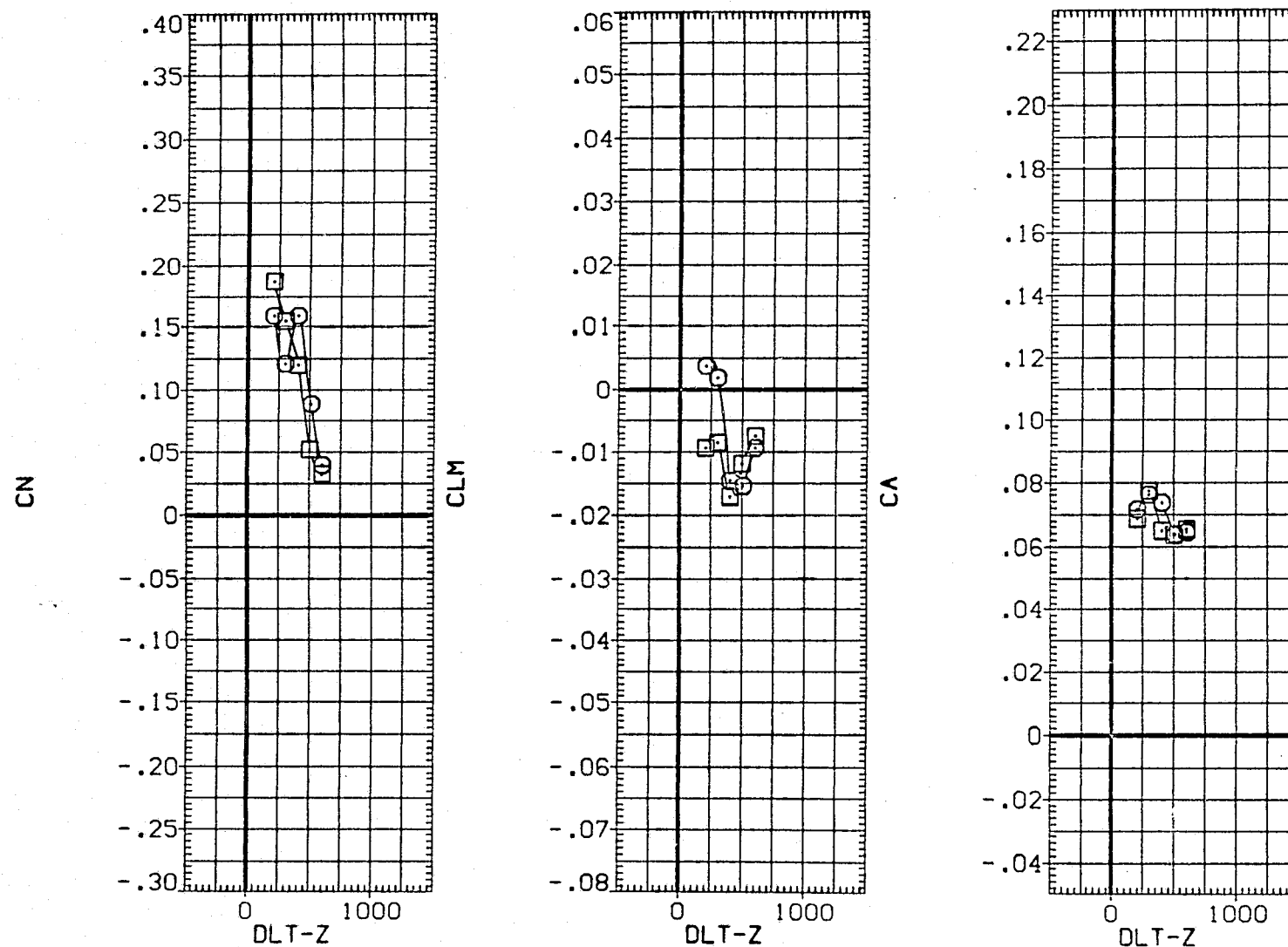


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR178)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.472	.000	ALPHA	5.000
□	200.400	.000	DLTALF	-5.000
		.000	MACH	7.980
		.000	ELEVON	.000
		24.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

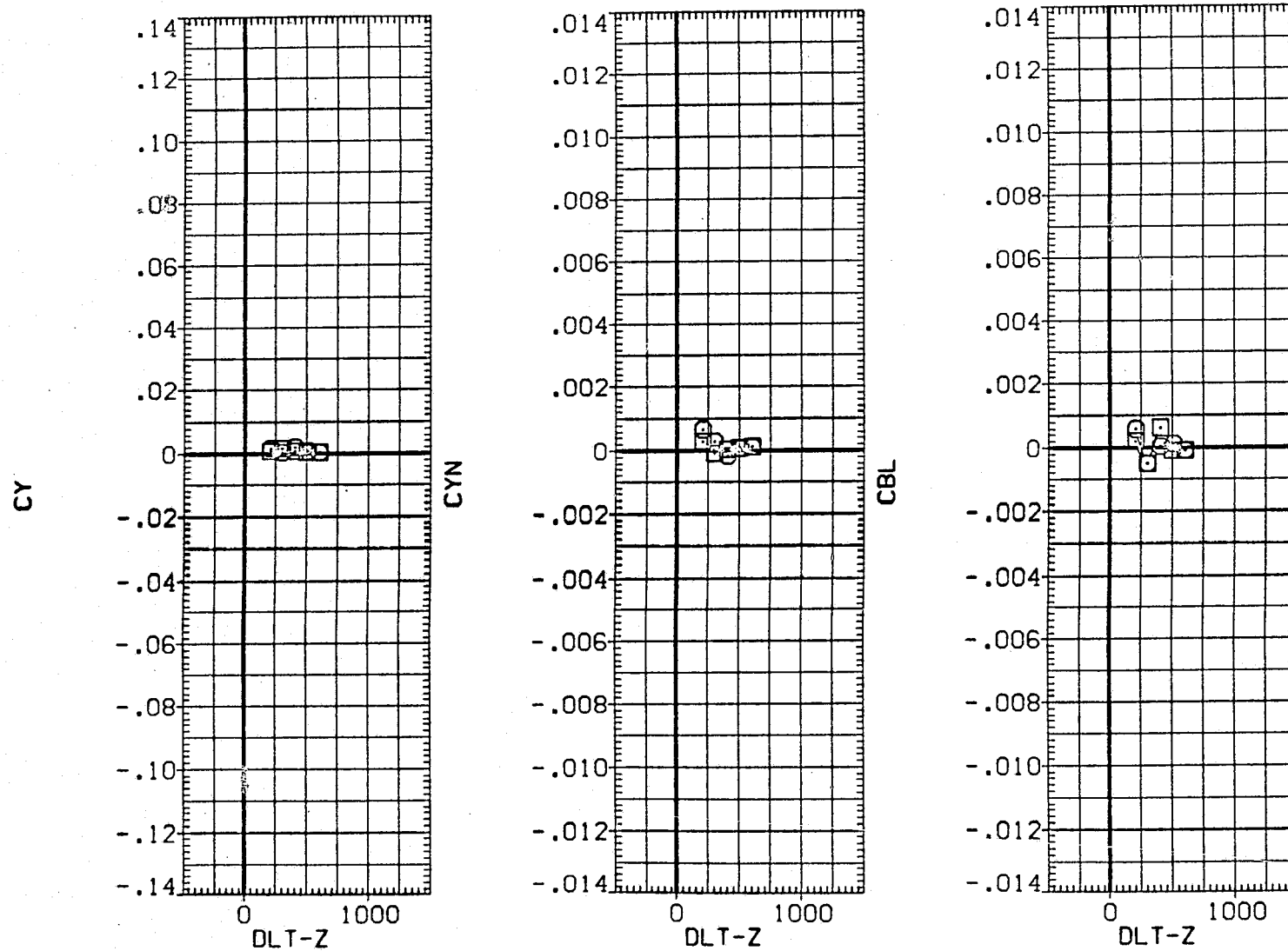


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR179)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.592	.000	ALPHA	5.000
□	200.330	.000	DLTALF	-10.000
◇	400.360	.000	MACH	7.980
		.000	ELEVON	.000
		24.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

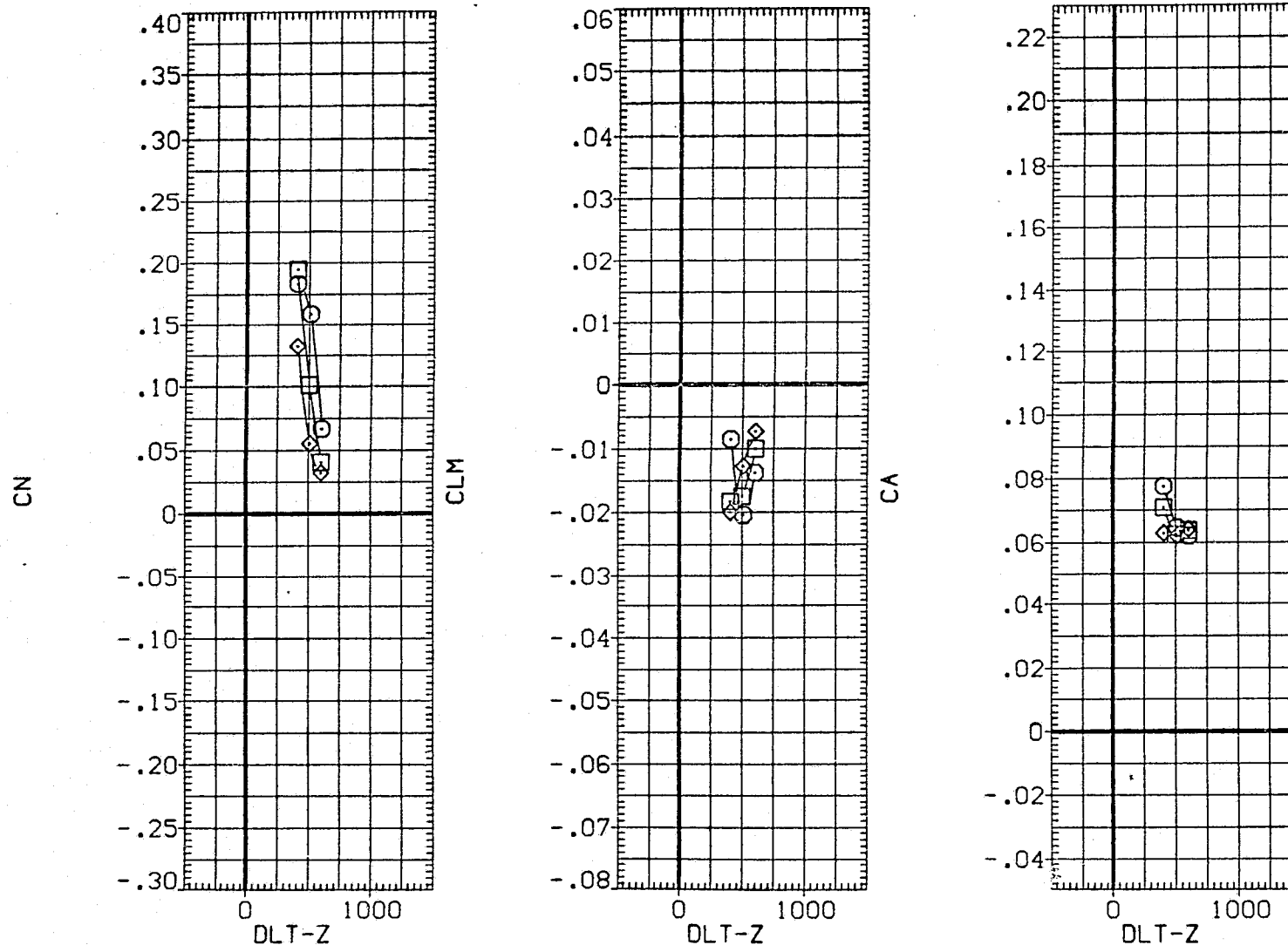


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR179)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.592	.000	5.000	-10.000
□	200.330	.000	7.980	.000
◇	400.360	.000	ELEVON	300.000
		24.000	P0	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

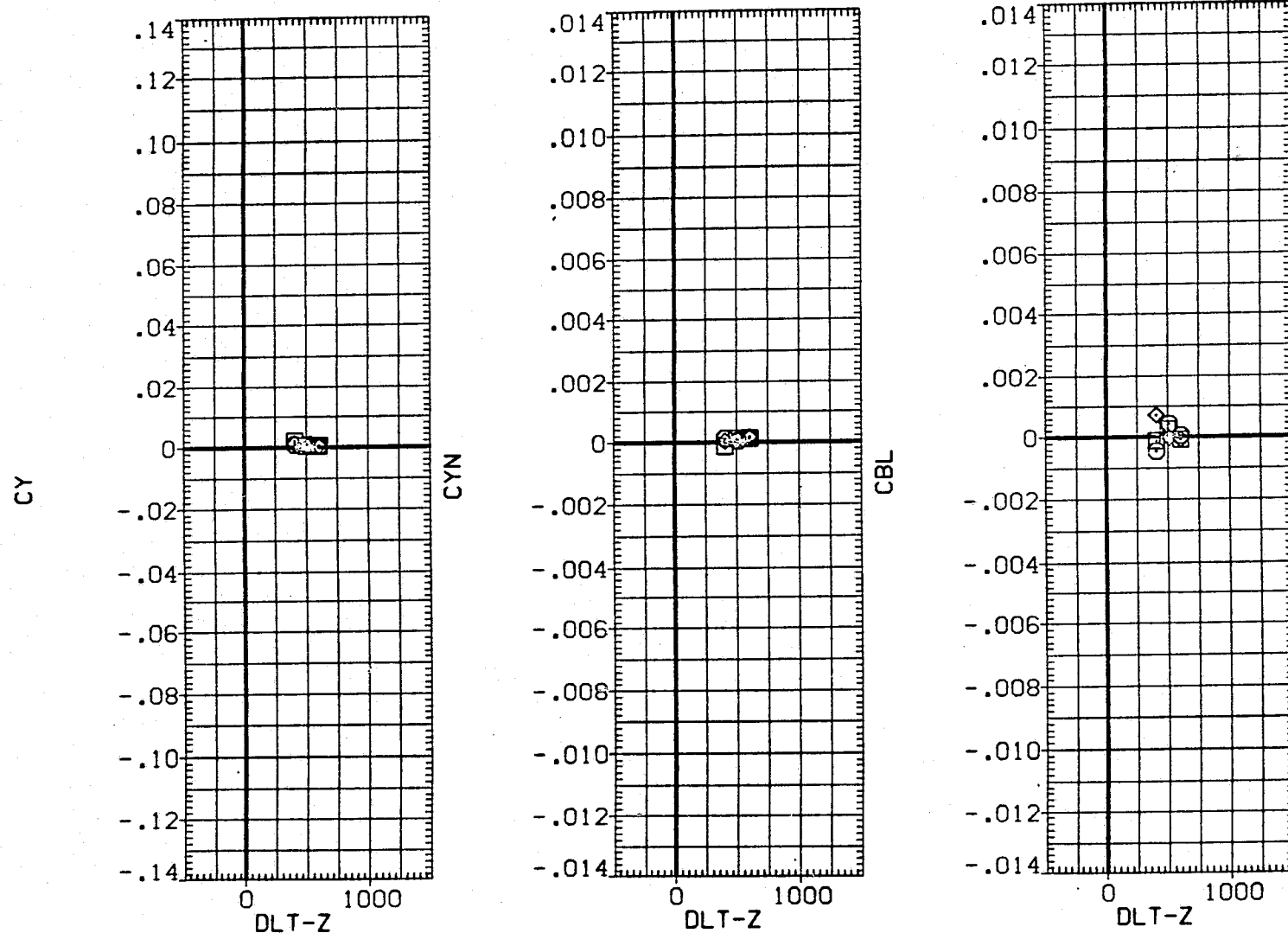


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR180)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.560	.000	ALPHA	5.000
□	200.510	.000	DLTALF	-15.000
◇	400.420	.000	MACH	7.980
		.000	ELEVON	.000
		24.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

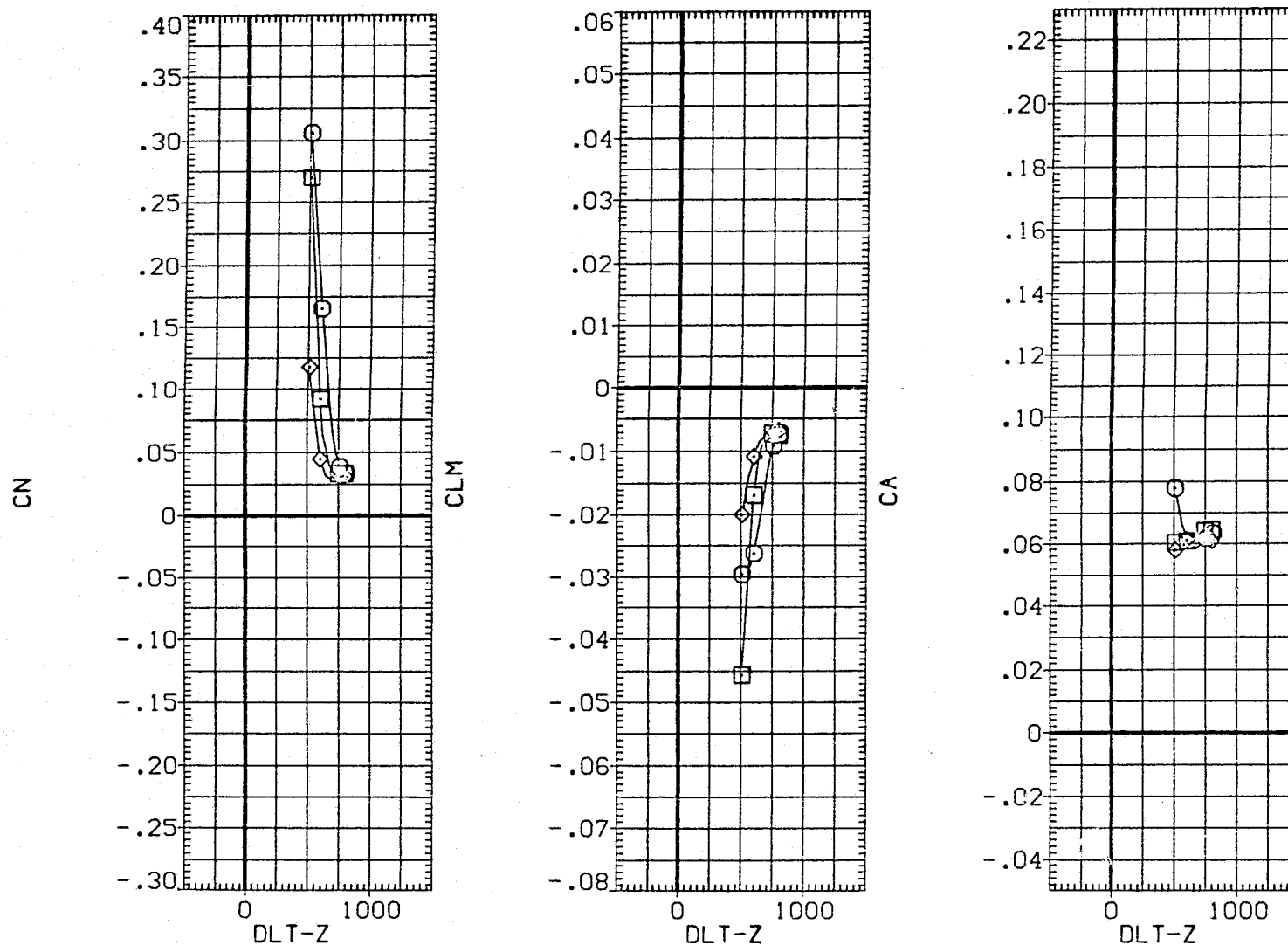


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR.80)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	5.000
○	.560	.000	DLTALF	-15.000	
□	200.510	.000	MACH	7.980	
◇	400.420	.000	ELEVON	.000	
		GRID	24.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

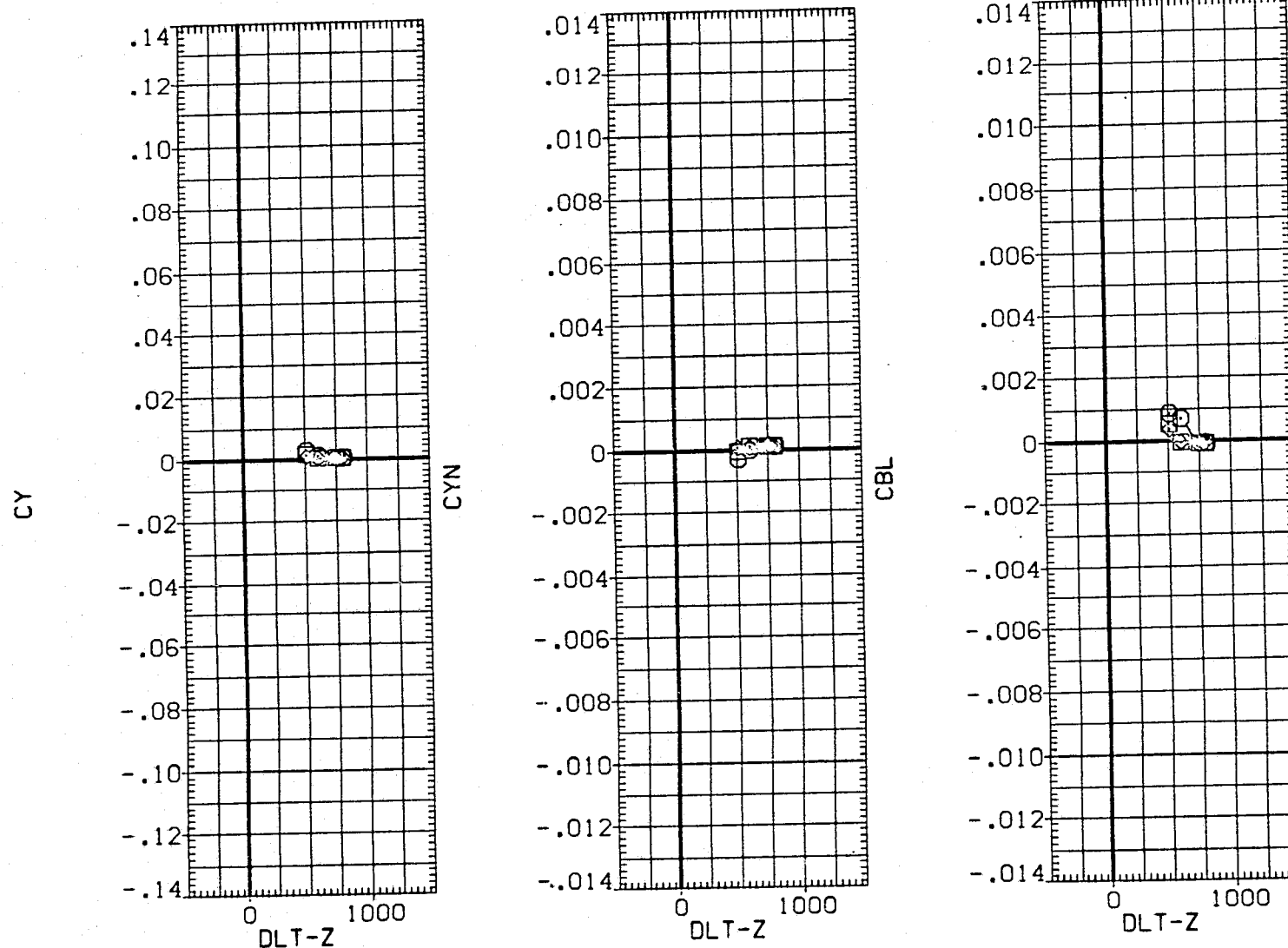


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR182)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.531	.000		5.000
□	200.410	.000	DLTALF	-20.000
◇	400.540	.000	MACH	7.980
		.000	ELEVON	.000
		.000	P0	300.000
		24.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

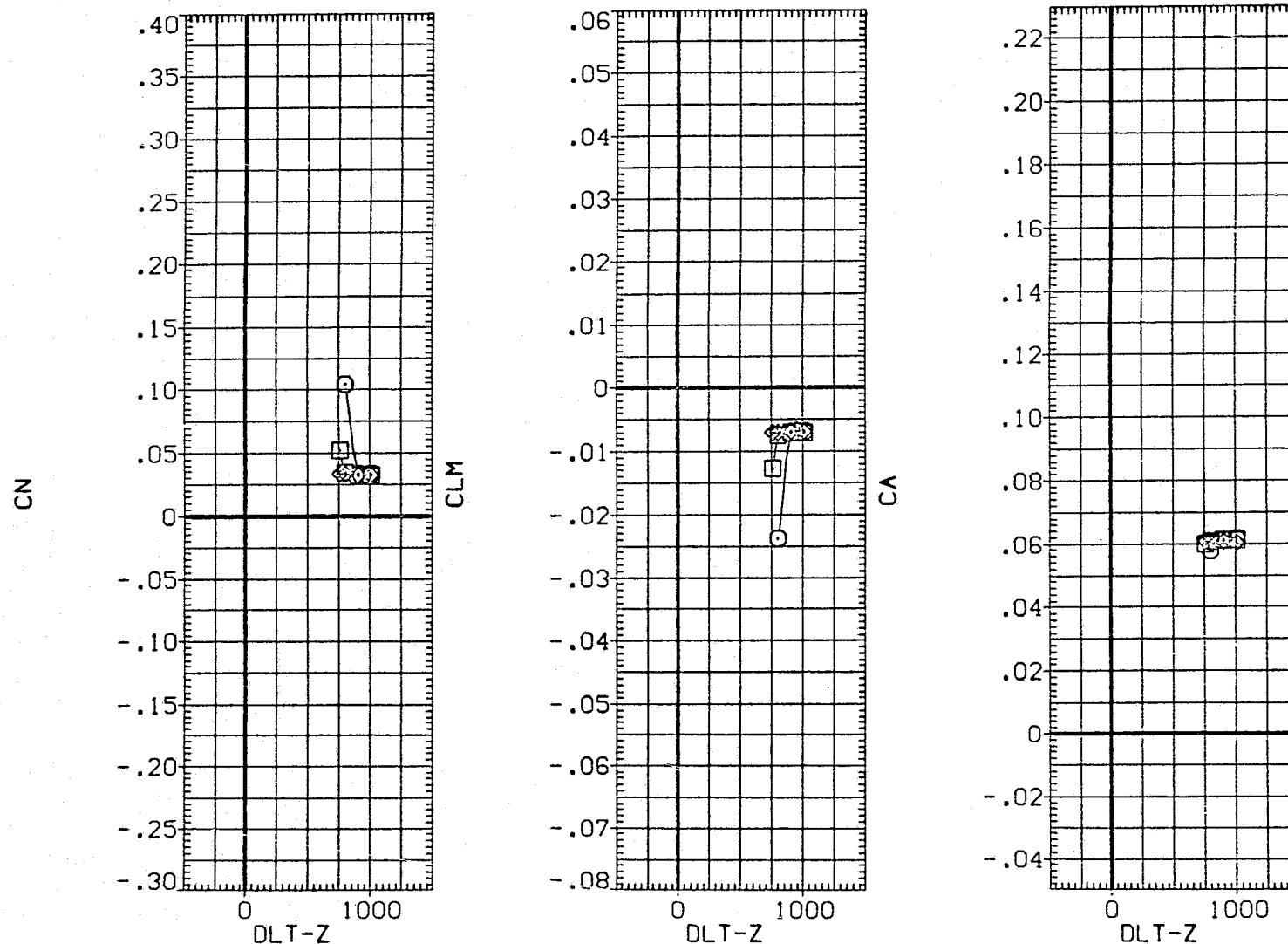


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR182)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.531	.000	ALPHA	5.000
□	200.410	.000	DLTALF	-20.000
◇	400.540	.000	MACH	7.980
		.000	ELEVON	.000
		24.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

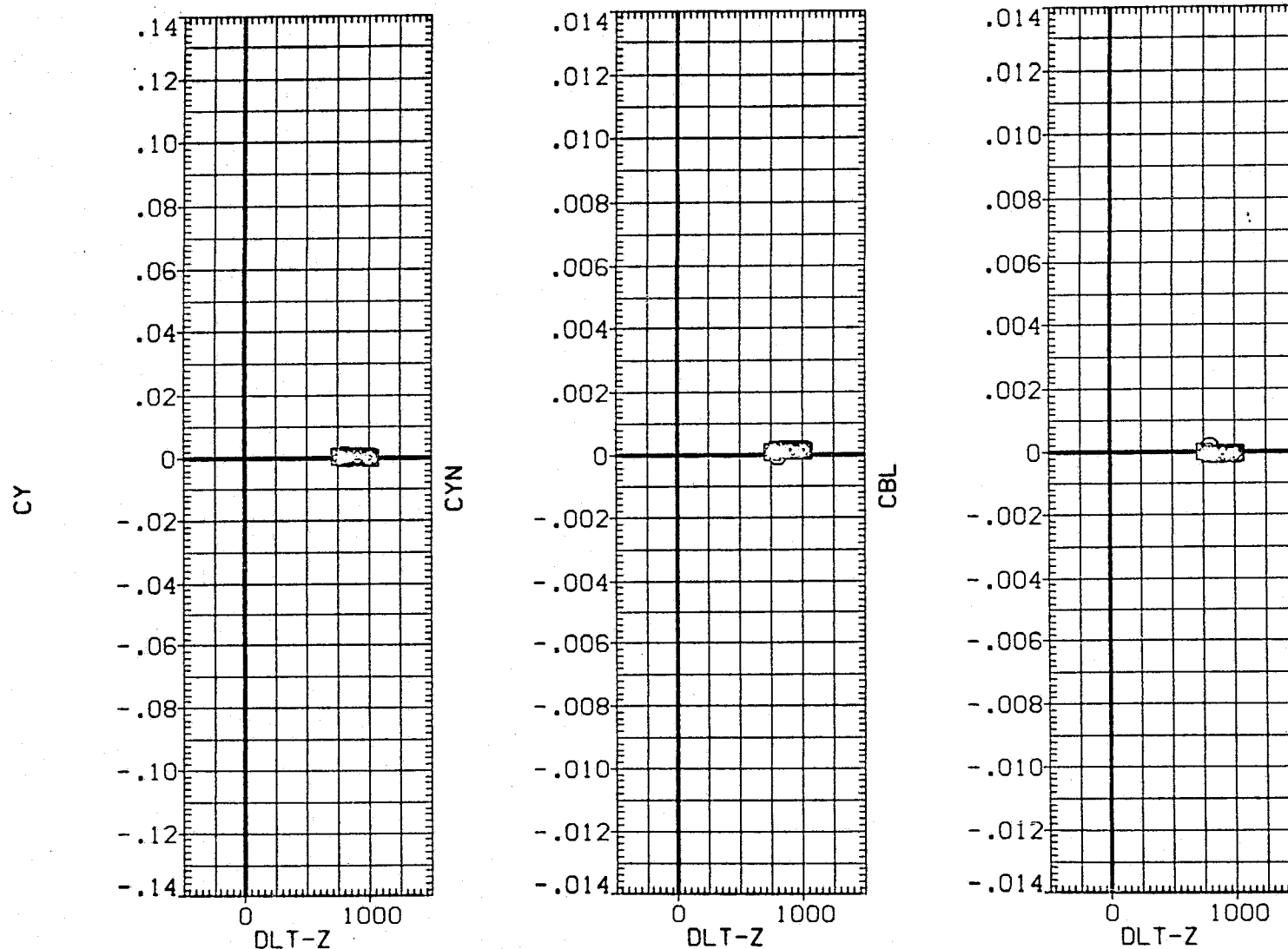


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR137)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.558	BETA	.000	ALPHA
□	200.630	DLTBT	3.000	DLTALF
		AILRON	.000	MACH
		GRID	.000	ELEVON
			25.000	PO
				420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

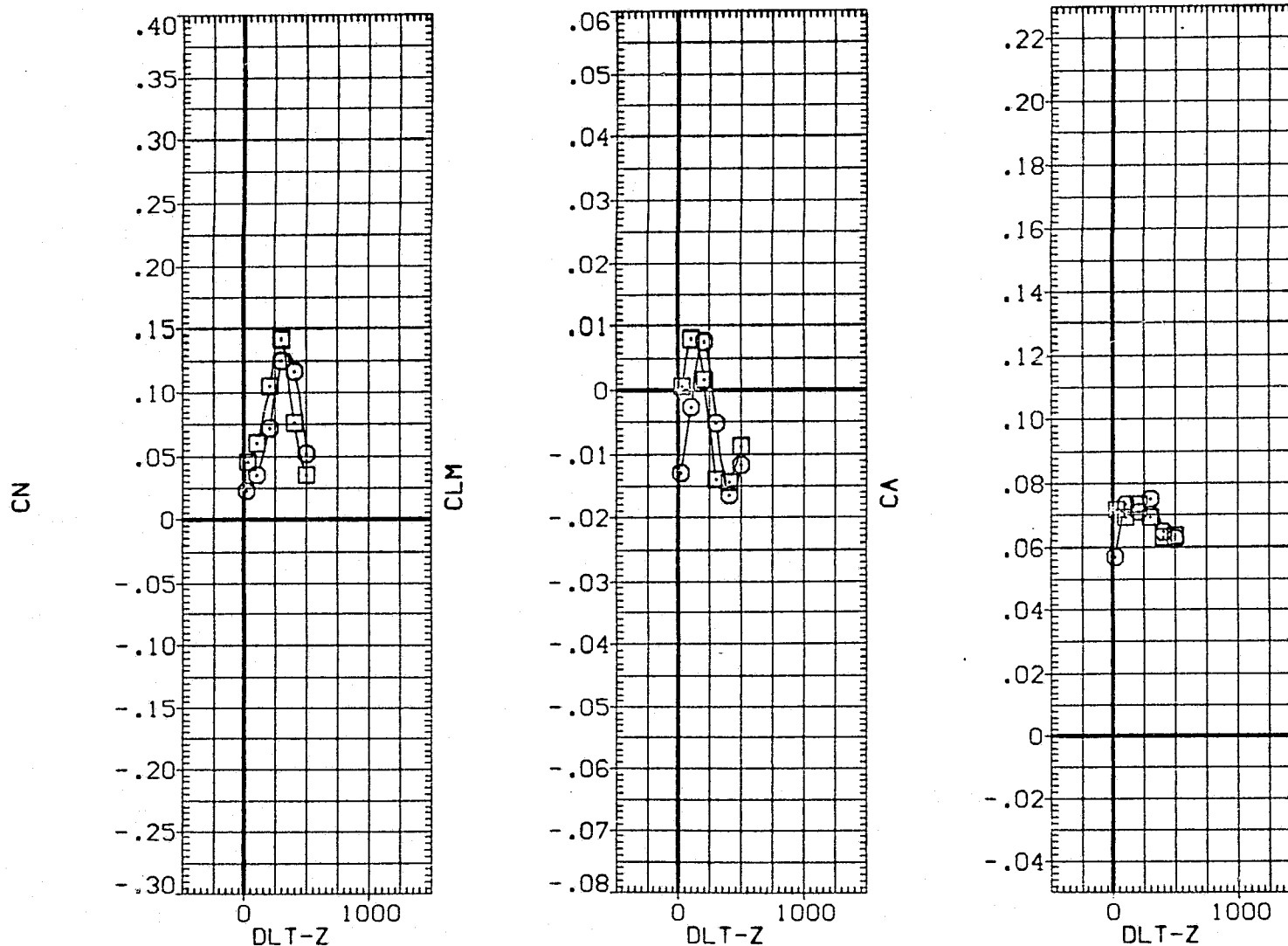


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR137)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.558	BETA	.000	5.000	
□	200.630	DLTBTB	3.000	.000	
		AIRLON	.000	7.980	
		GRID	.000	ELEVON	.000
			25.000	PG	420.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

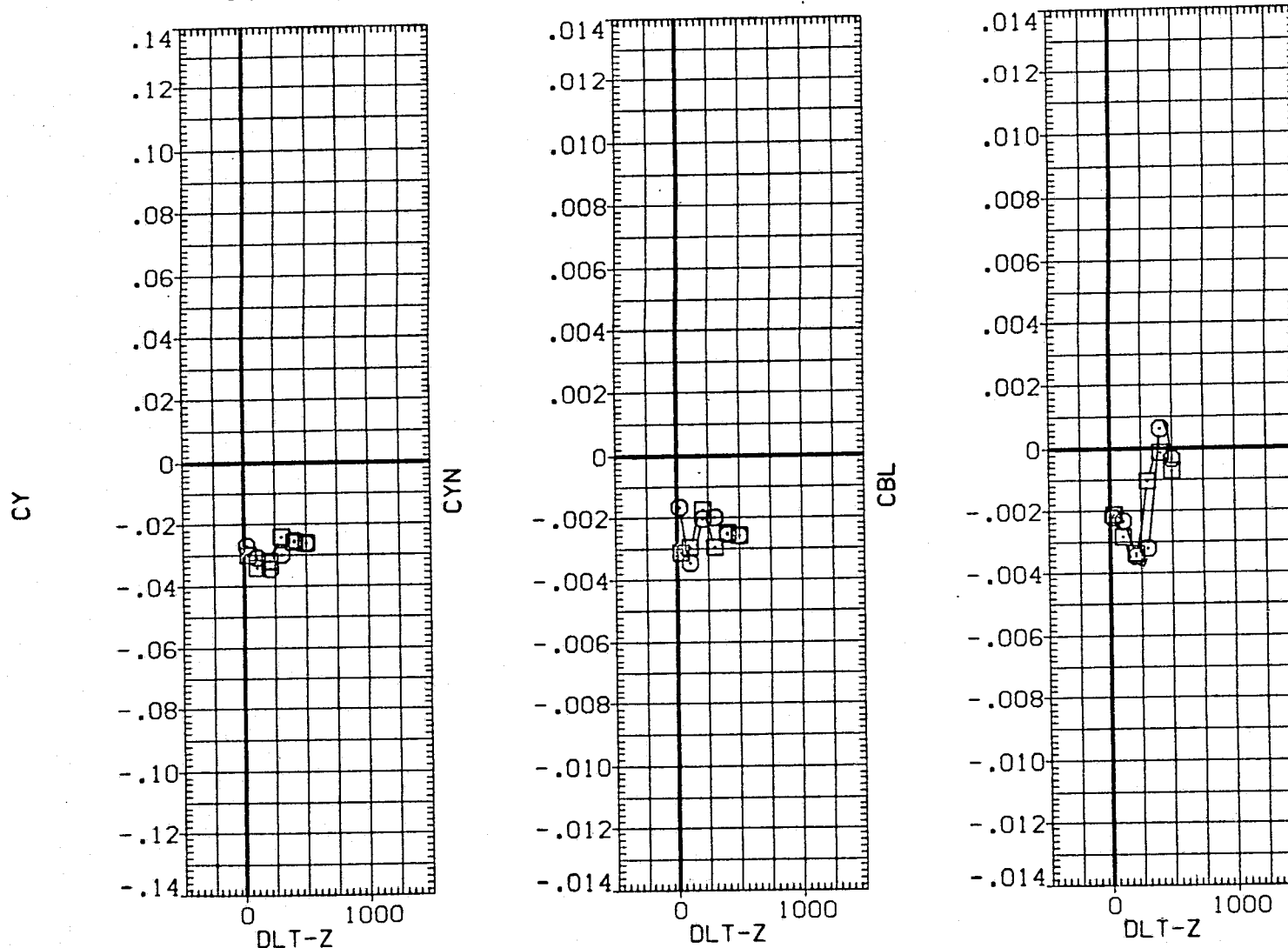


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)



AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR138)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	.000	ALPHA	5.000
□	.595	BETA	3.000	DLTALF	-5.000
	200.580	DLTBT	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	25.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

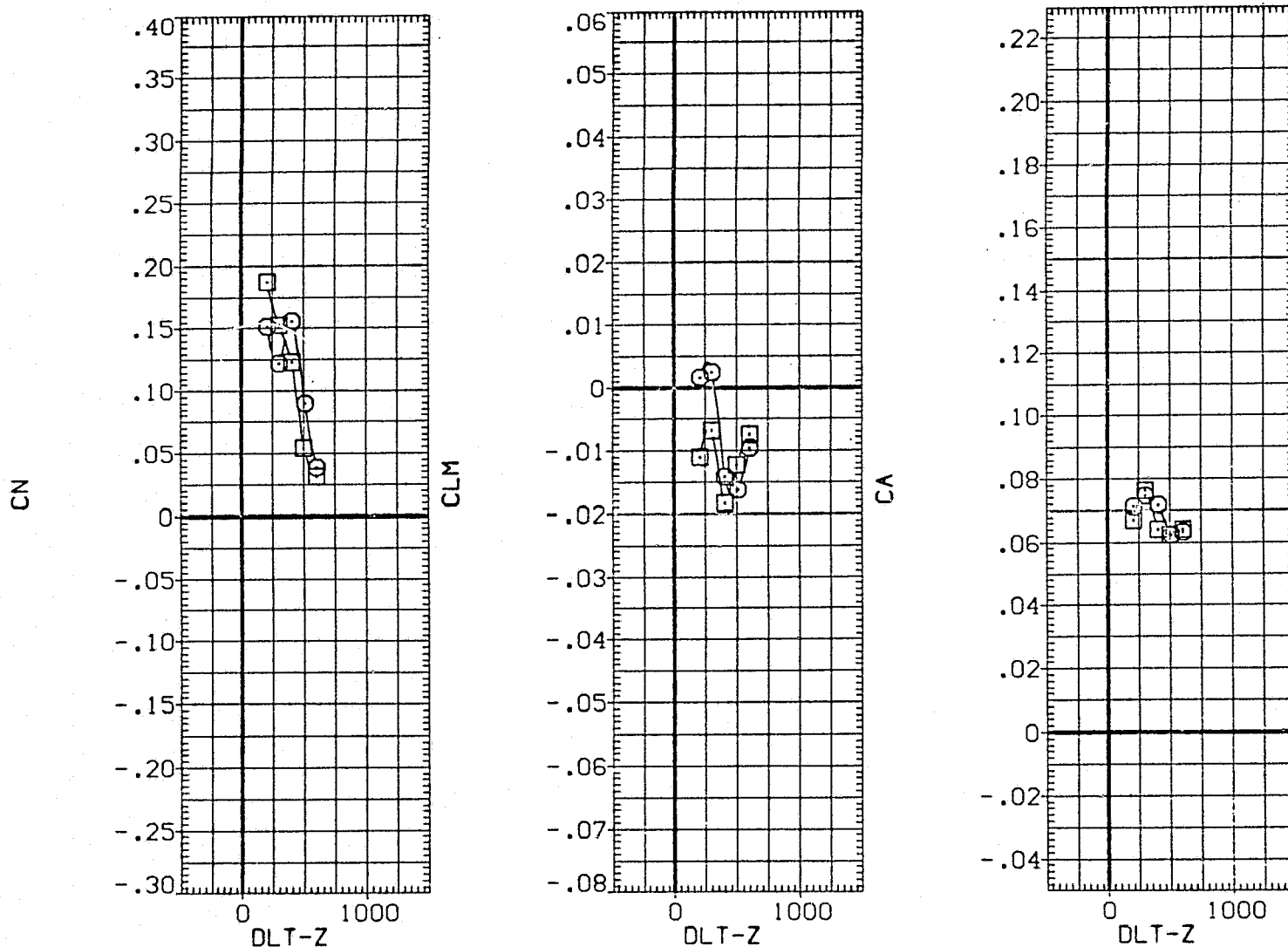


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTI 138)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	.000	ALPHA	5.000
□	.595	BETA	3.000	DLTALF	-5.000
	200.580	DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	25.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

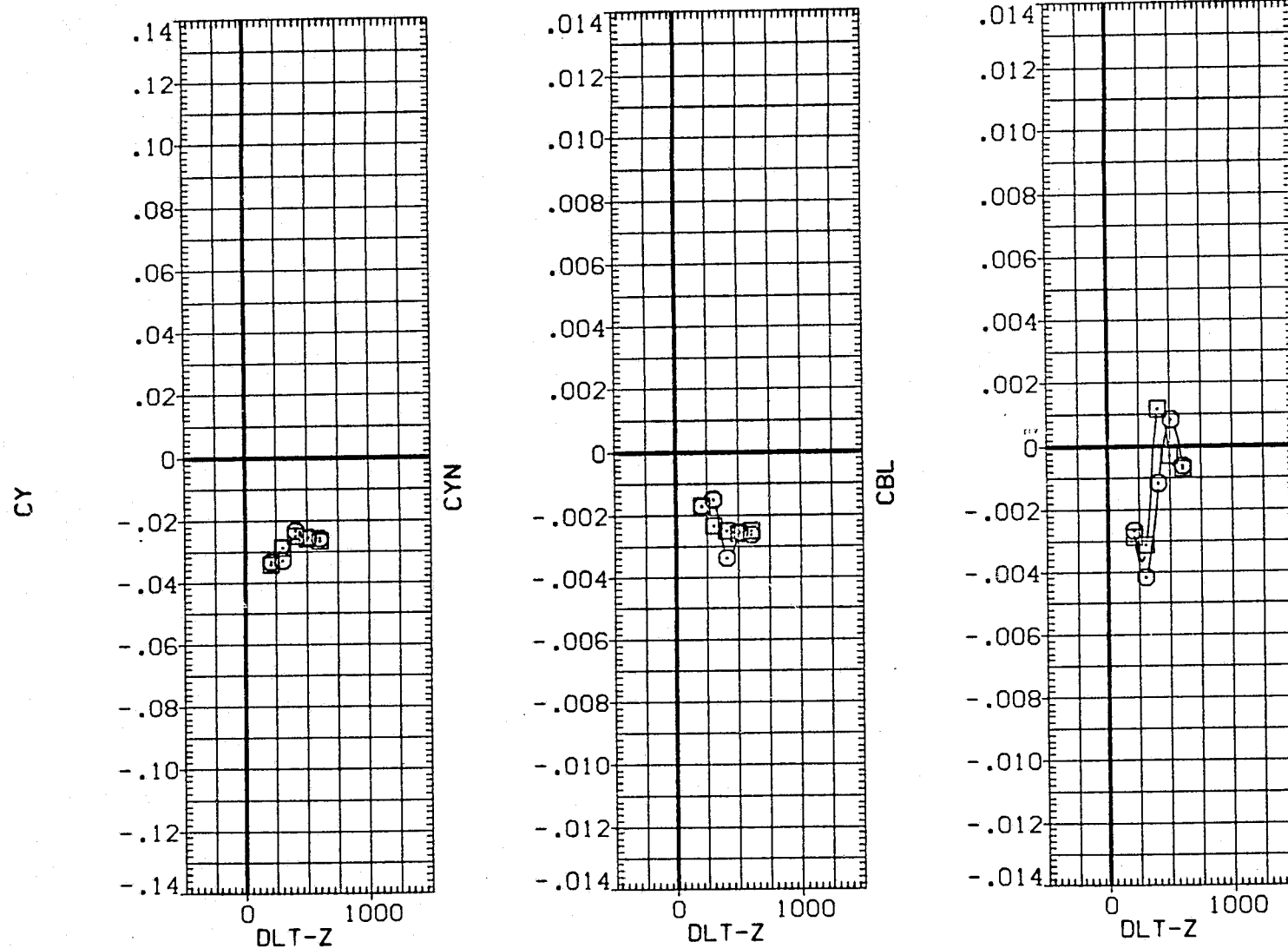


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR139)

SYMBOL		DLT-X	PARAMETRIC VALUES			
○		.543	DLT-Y	.000	ALPHA	5.000
□		200.610	BETA	3.000	DLTALF	-10.000
◇		400.430	DLTBTA	.000	MACH	7.980
			ATLRON	.000	ELEVON	.000
			GRID	25.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

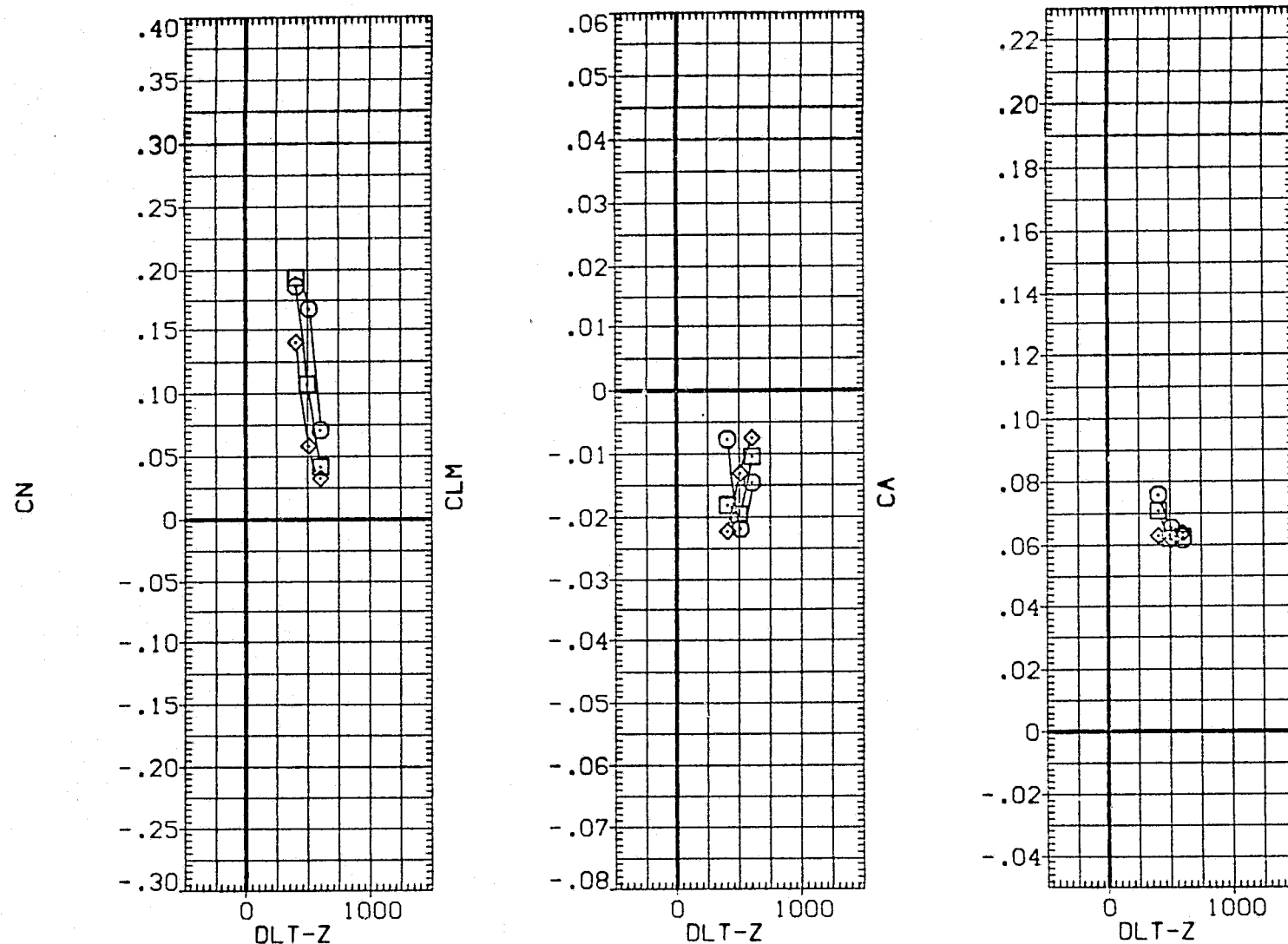


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR139)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.543	.000	ALPHA	5.000
□	200.610	BETA	3.000	DLTALF -10.000
◇	400.430	DLTBTA	.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	25.000	PO 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

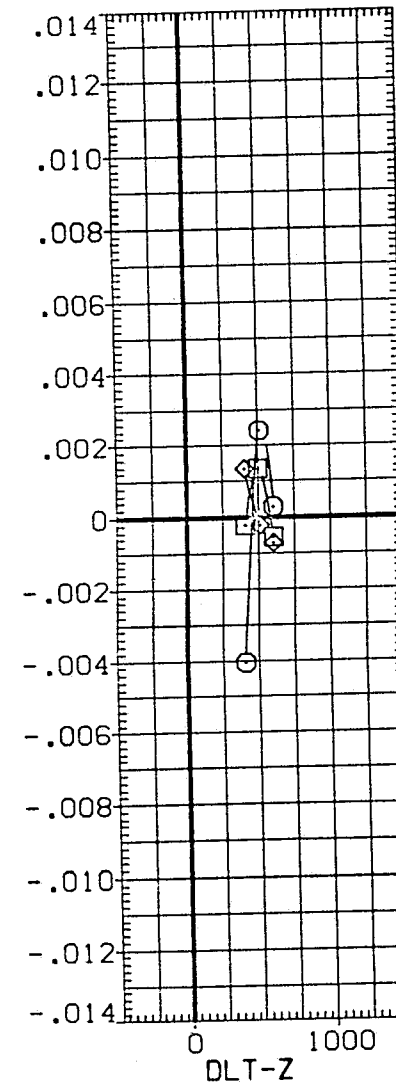
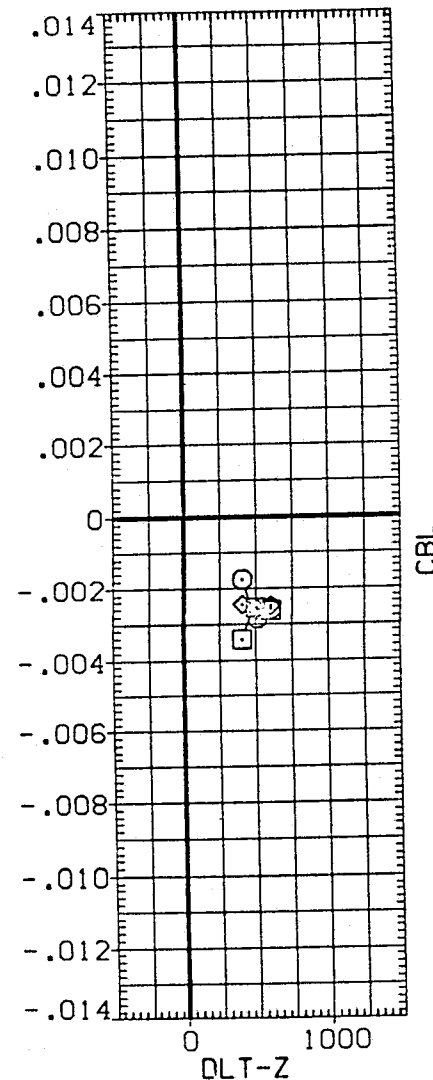
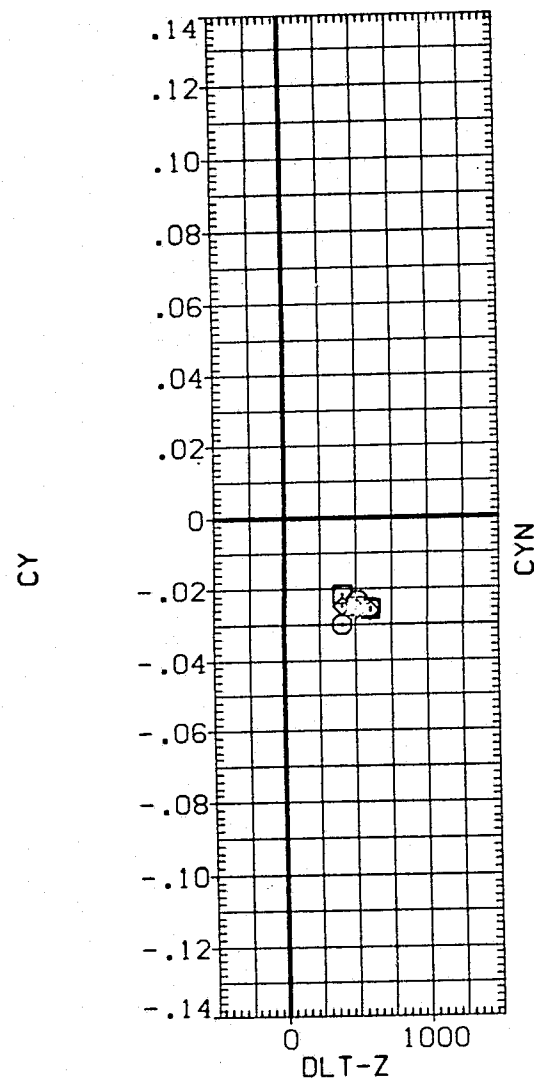


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR140)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.627	.000	ALPHA	5.000
□	200.440	3.000	DLTALF	-15.000
◇	400.280	.000	MACH	7.980
		.000	ELEVON	.000
		25.000	PG	420.000
		GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

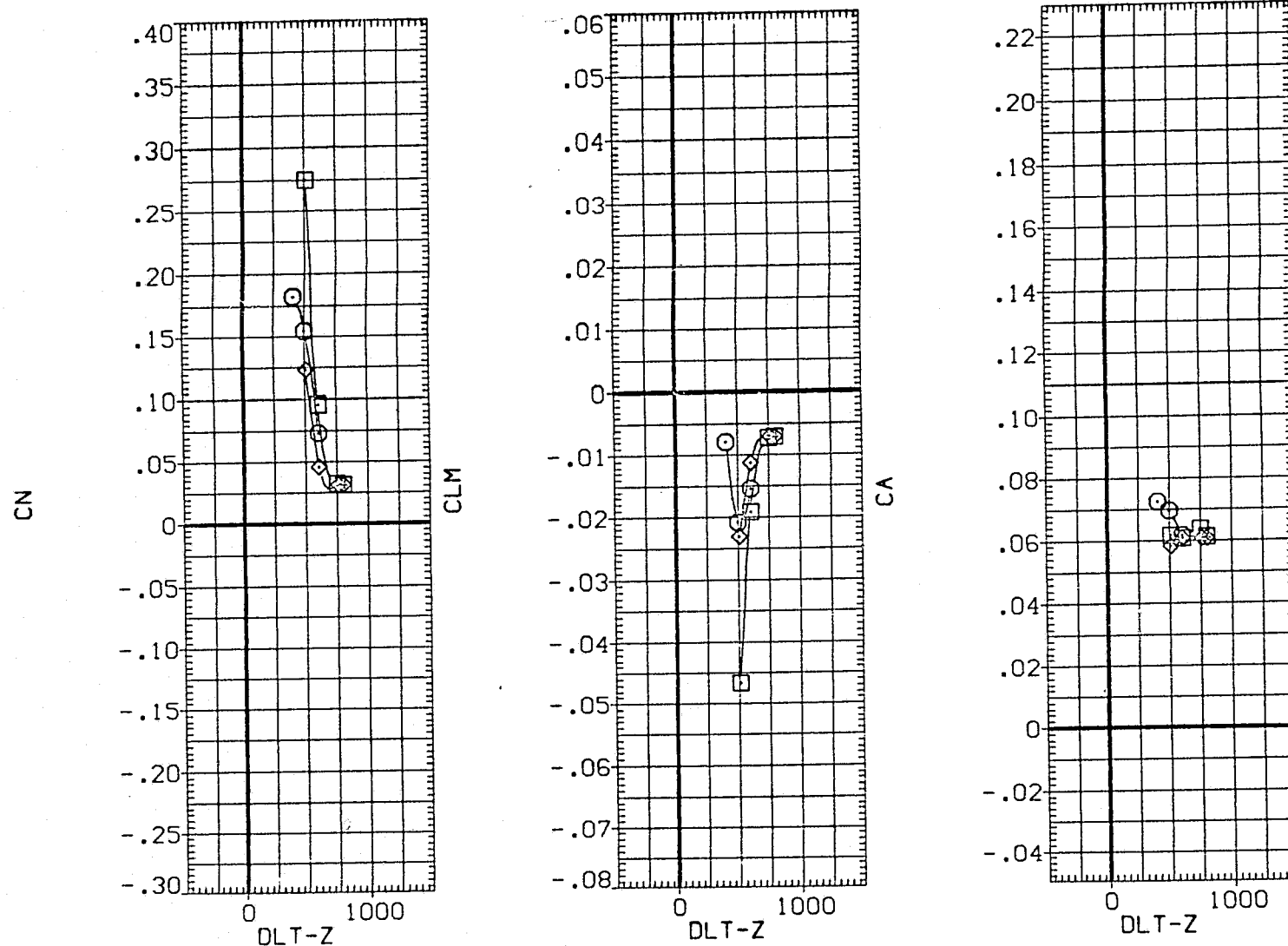


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR140)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.627	.000	ALPHA 5.000
□	200.440	BETA 3.000	DLTALF -15.000
◇	400.280	DLTBTA .000	MACH 7.980
		ATLRON .000	ELEVON .000
		GRID 25.000	PO 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

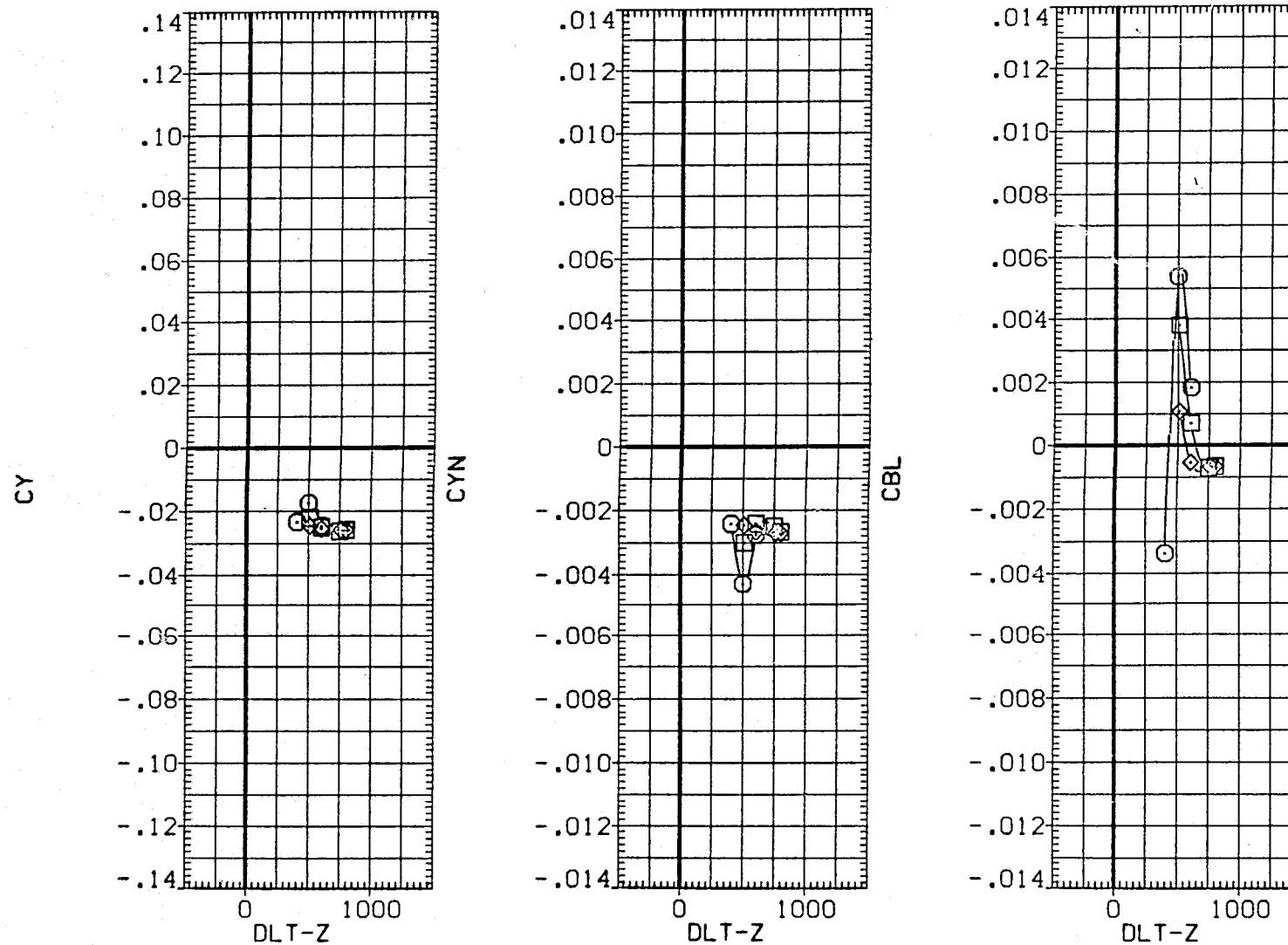


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR142)

SYMBOL		DLT-X	PARAMETRIC VALUES			
○		.541	DLT-Y	.000	ALPHA	5.000
□		200.490	BETA	3.000	DLTALF	-20.000
◇		400.560	DLTBTA	.000	MACH	7.980
			AILRON	.000	ELEVON	.000
			GRID	25.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

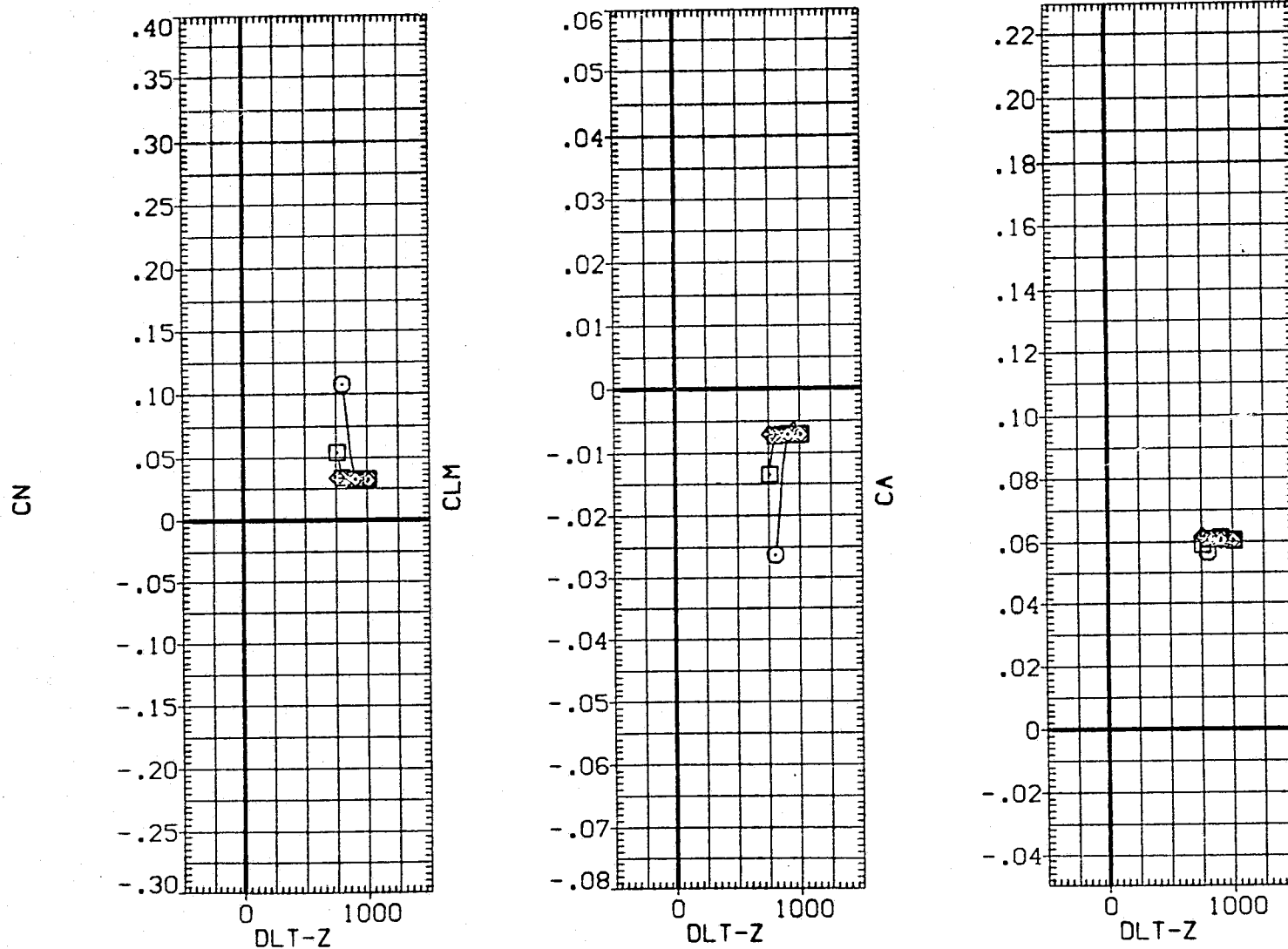


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR142)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.541	.000	ALPHA	5.000
□	200.490	BETA	3.000	DLTALF -20.000
◇	400.560	DLTBTA	.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	25.000	P0 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

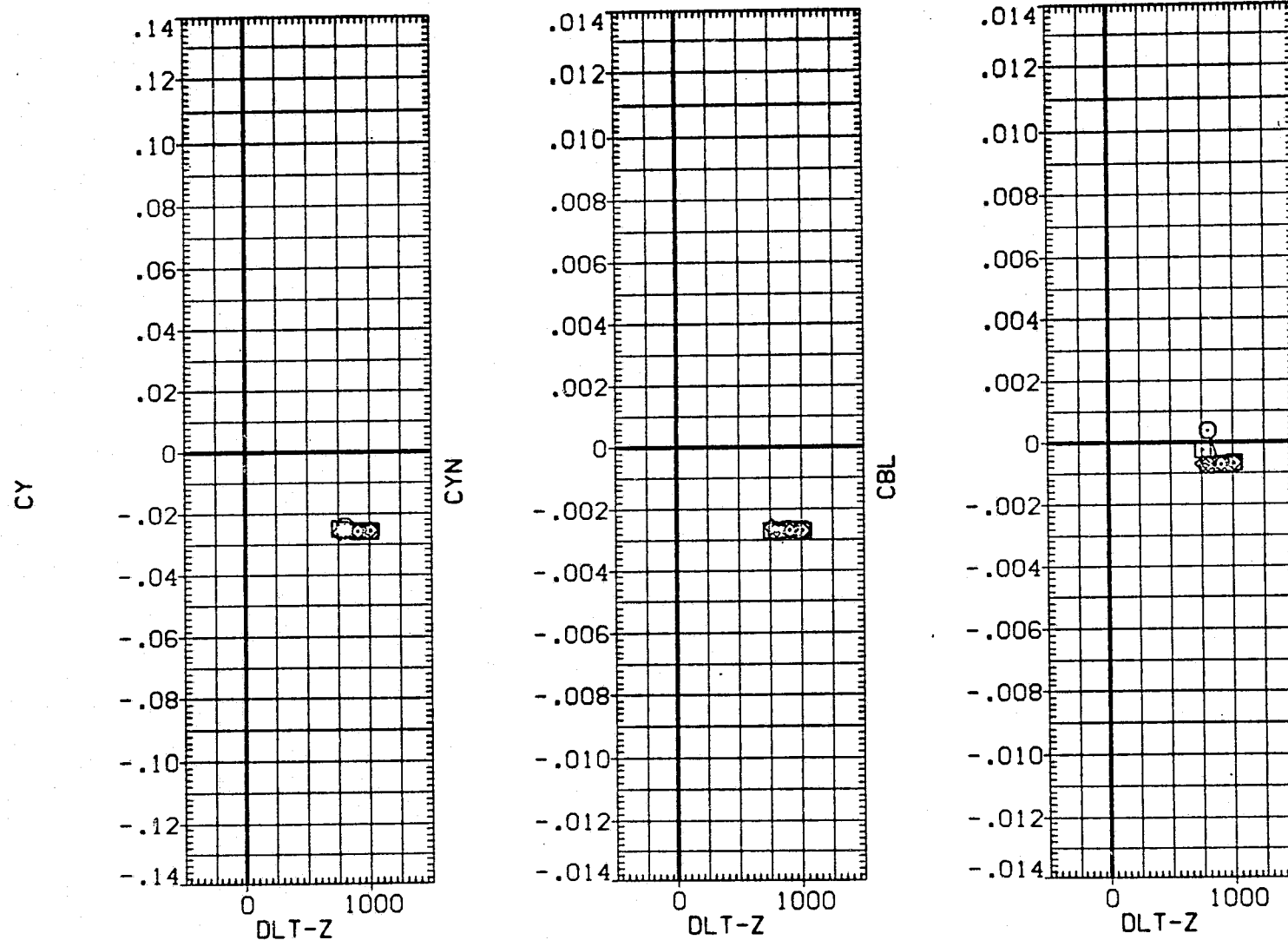


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR171)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON	PO
○	.412							-5.000	.000	7.980	.000	300.000
□	200.460											

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

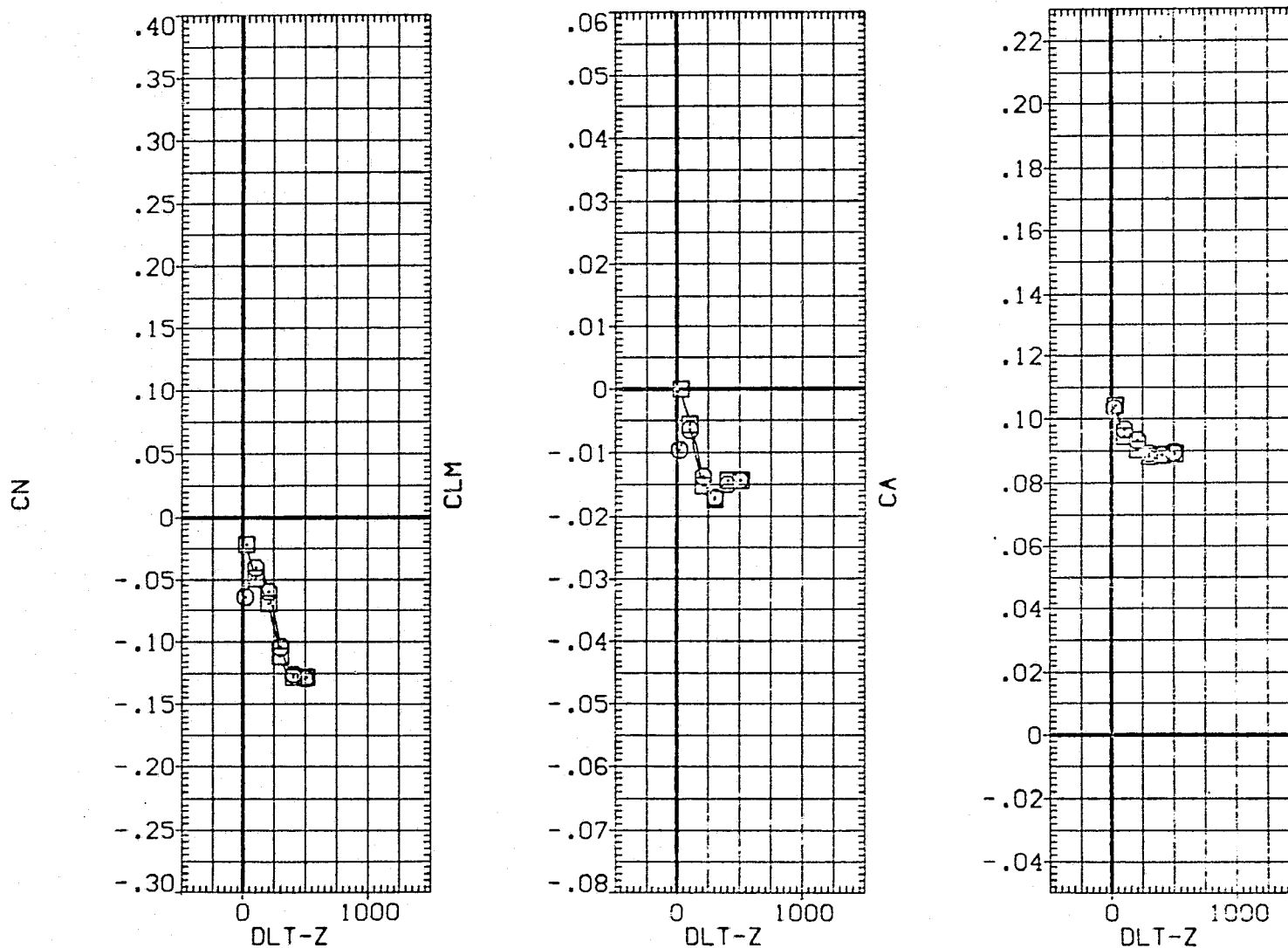


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR171)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.412	.000	ALPHA	-5.000
□	200.460	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		8.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

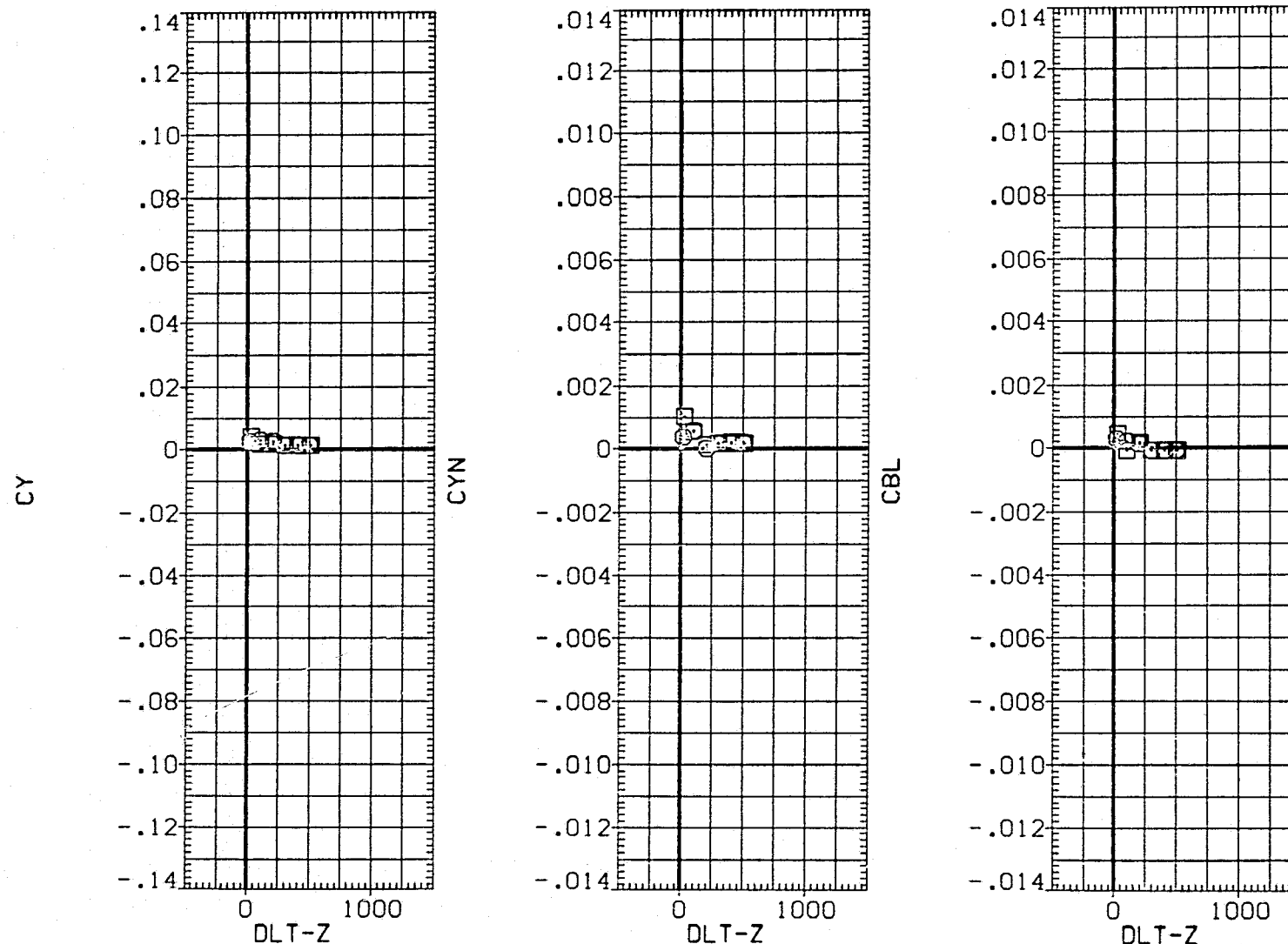


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR172)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.566	BETA	.000	-5.000
□	200.450	DLTBT	.000	-5.000
		AILRON	.000	7.980
		GRID	8.000	ELEVON
			P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

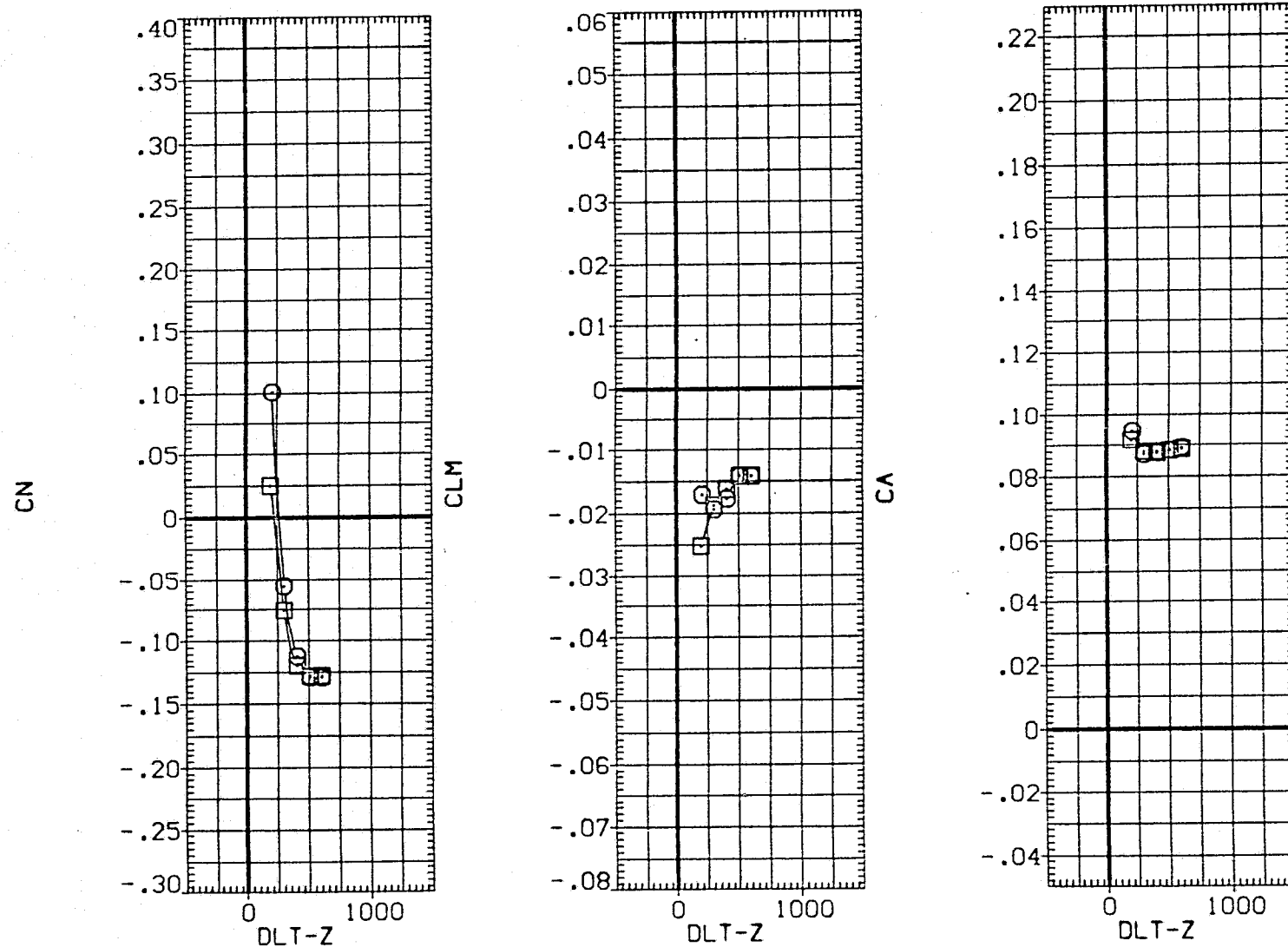


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR172)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.566	DLT-Y	.000	ALPHA	-5.000
□	200.450	BETA	.000	DLTALF	-5.000
		DLTBT	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	8.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

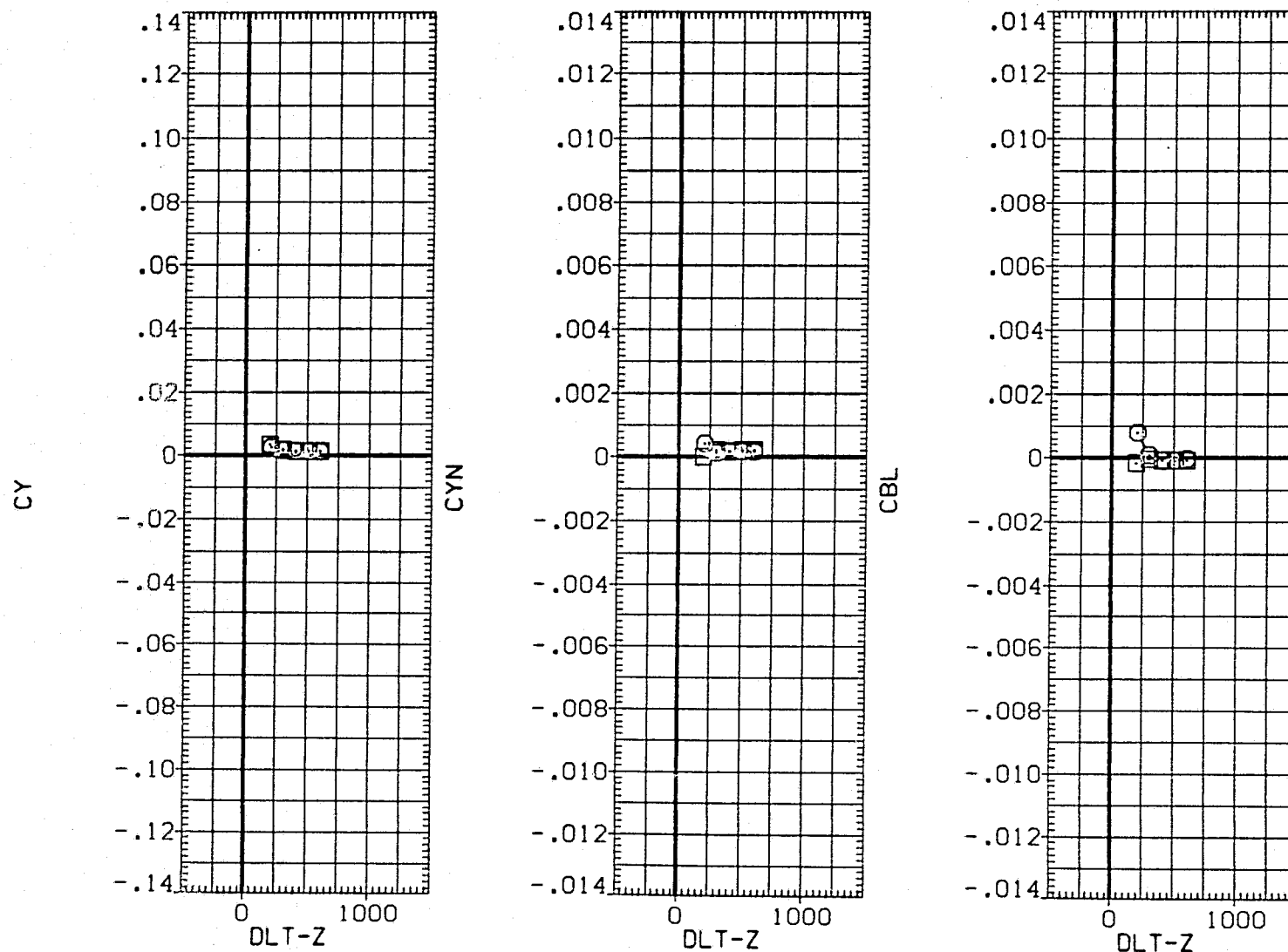


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR173)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.439	.000	ALPHA	-5.000
□	200.410	.000	DLTALF	-10.000
◇	400.440	.000	MACH	7.980
		.000	ELEVON	.000
		8.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

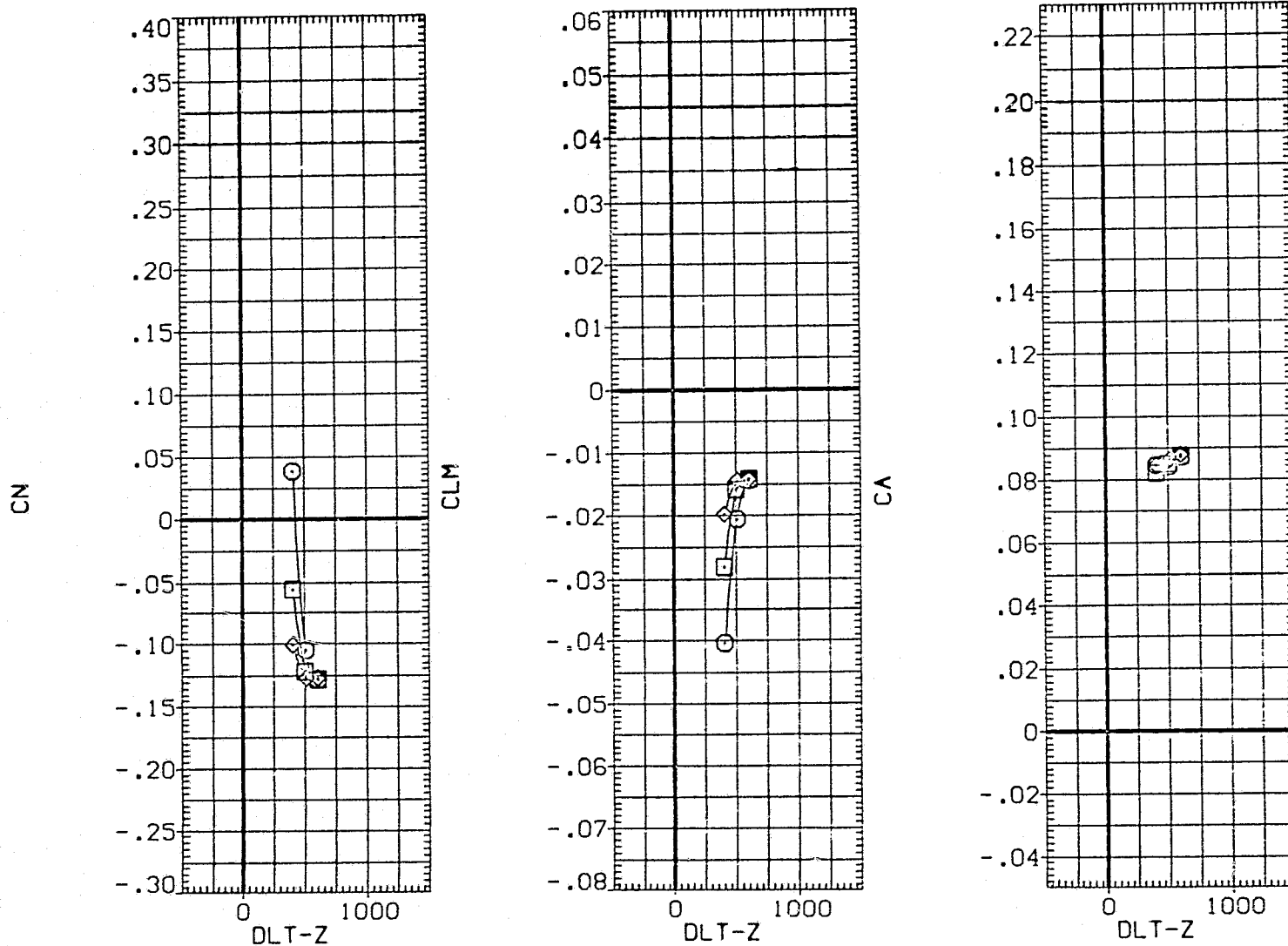


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR173)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.439		.000	ALPHA	-5.000
□	200.410	BETA	.000	DLTALF	-10.000
◇	400.440	DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	8.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

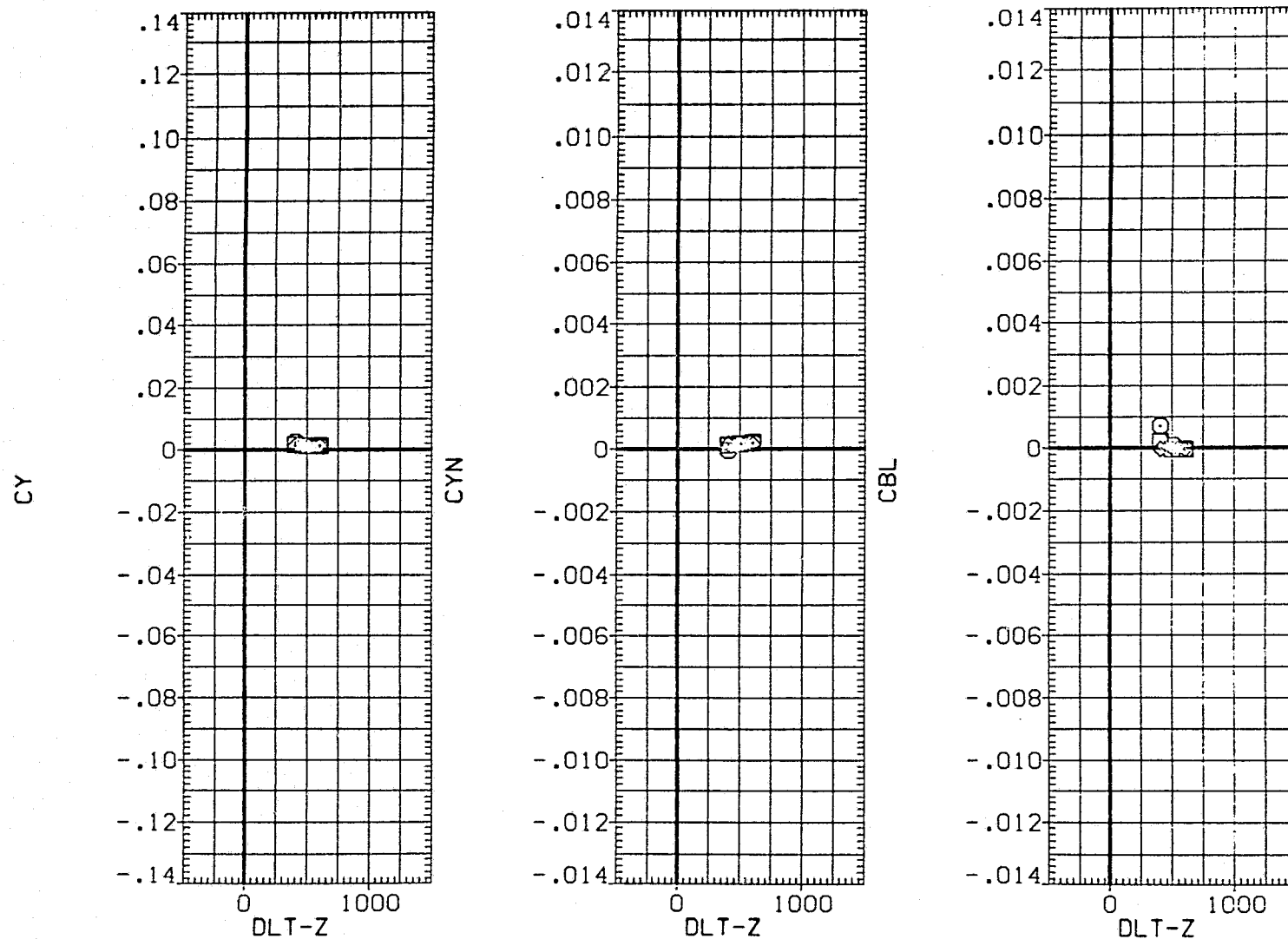


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR174)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.552	.000	ALPHA	-5.000
□	200.340	.000	DLTALF	-15.000
◇	400.430	.000	MACH	7.980
		.000	ELEVON	.000
		.000	PQ	300.000
		8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

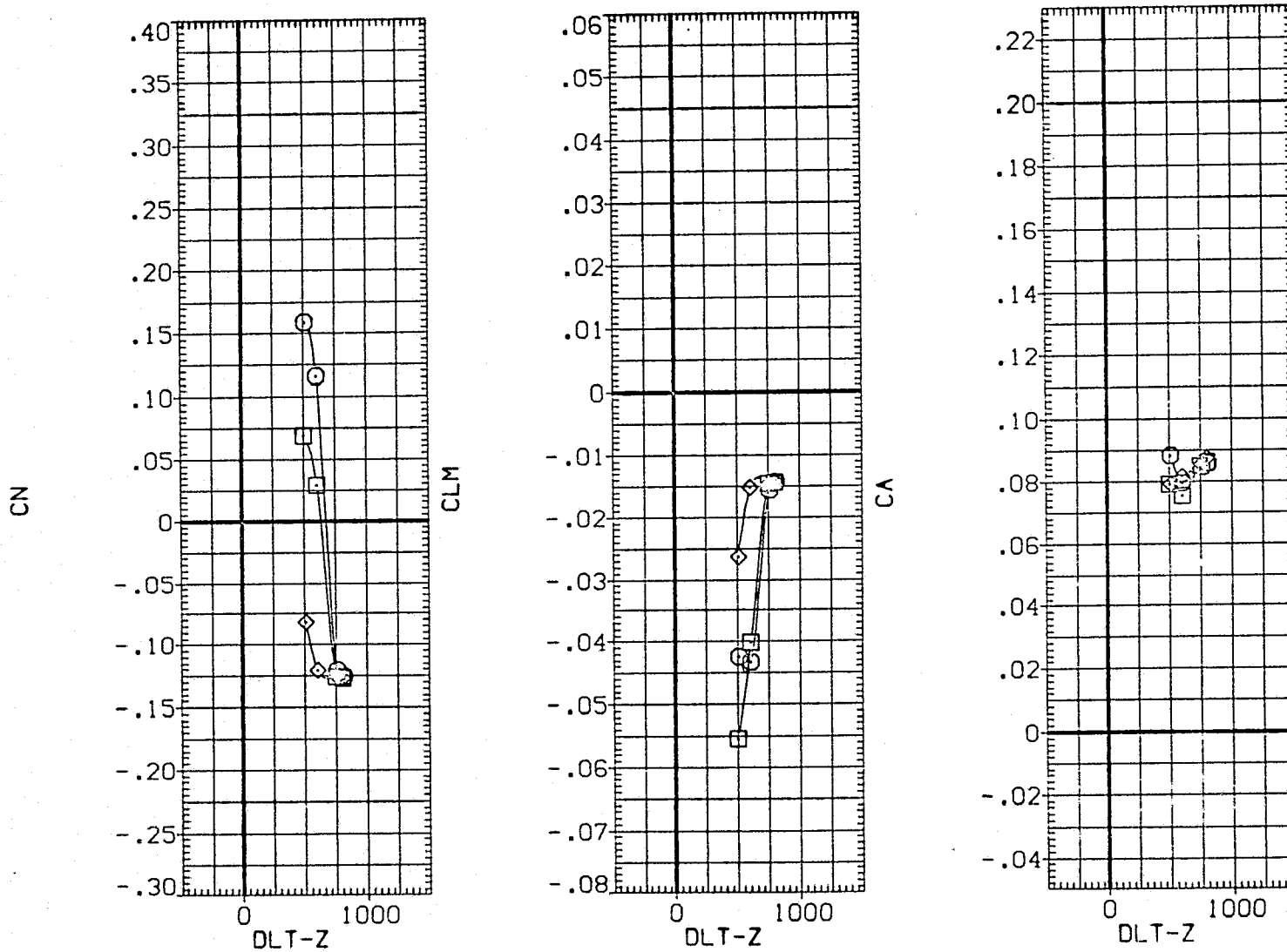


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR174)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.552	.000	ALPHA	-5.000
□	200.340	BETA	.000	DLTALF
◇	400.430	DLTBTA	.000	MACH
		AILRON	.000	ELEVON
		GRID	8.000	PO
				300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

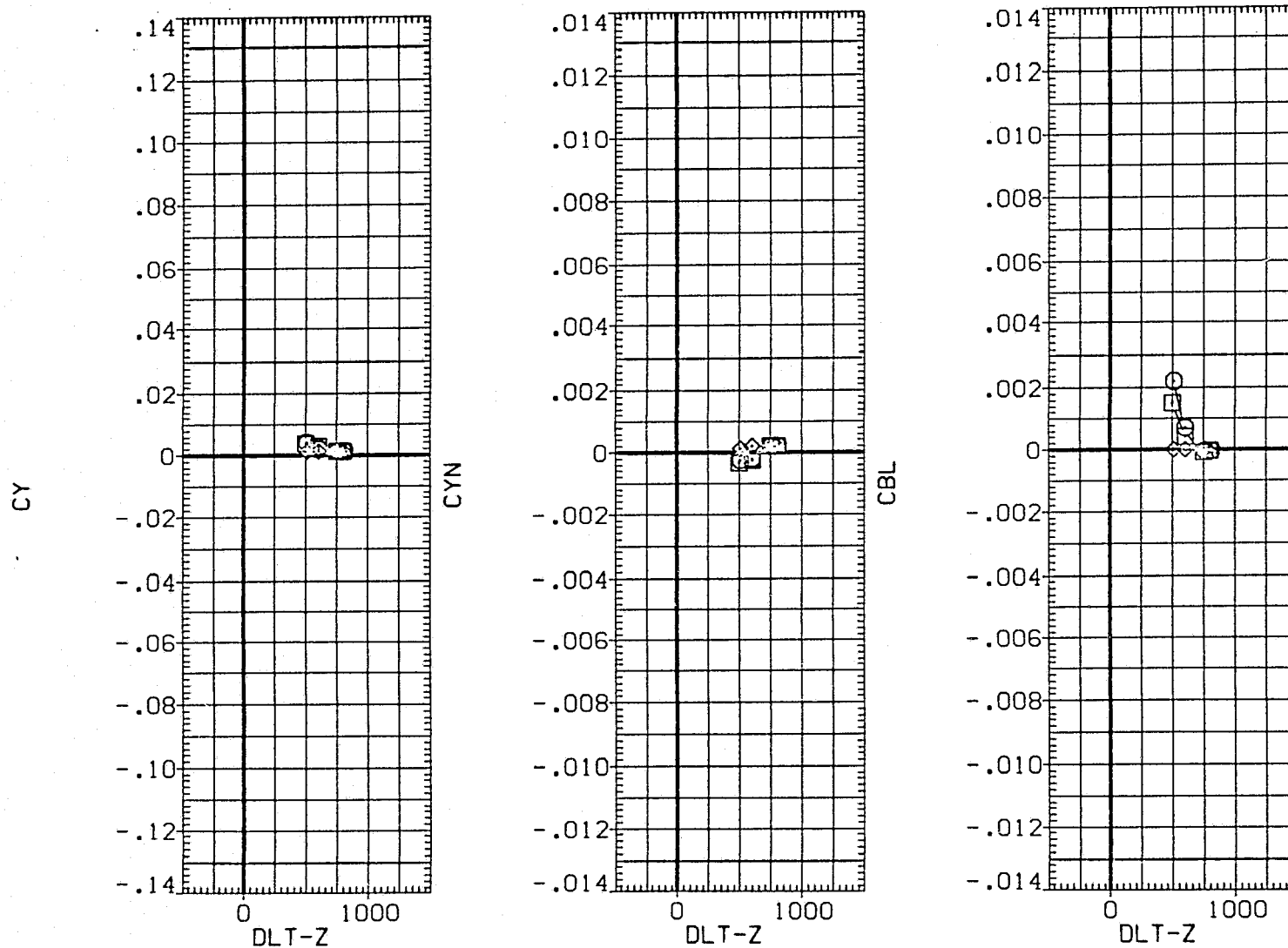


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR176)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.295	.000	ALPHA	-5.000
□	200.520	.000	DLTALF	-20.000
◇	400.430	.000	MACH	7.980
		.000	ELEVON	.000
		8.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

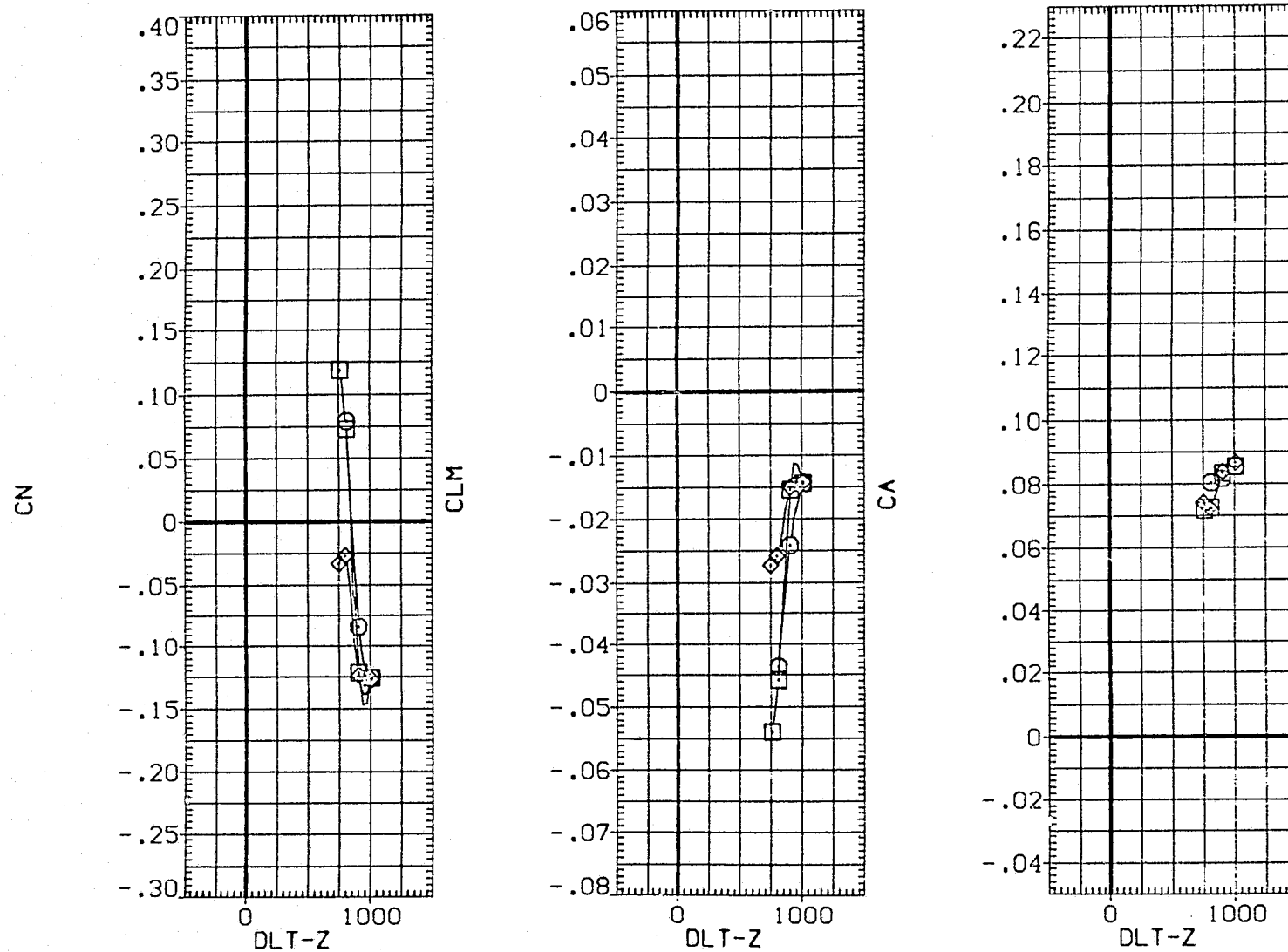


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR176)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.295	.000	ALPHA	-5.000
□	200.520	.000	DLTALF	-20.000
◇	400.430	.000	MACH	7.980
		.000	ELEVON	.000
		8.000	P0	300.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRF	1089.6000 IN. X0
YMRF	.0000 IN. Y0
ZMRF	375.0000 IN. Z0
SCALE	.0100

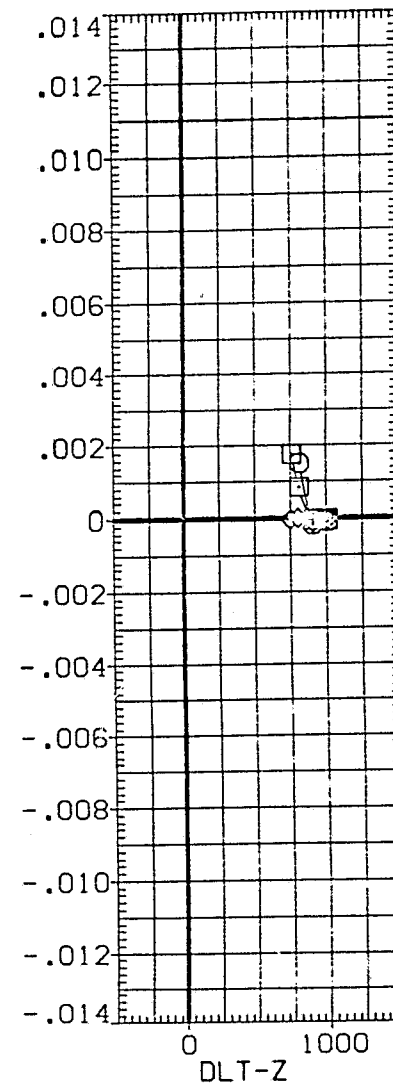
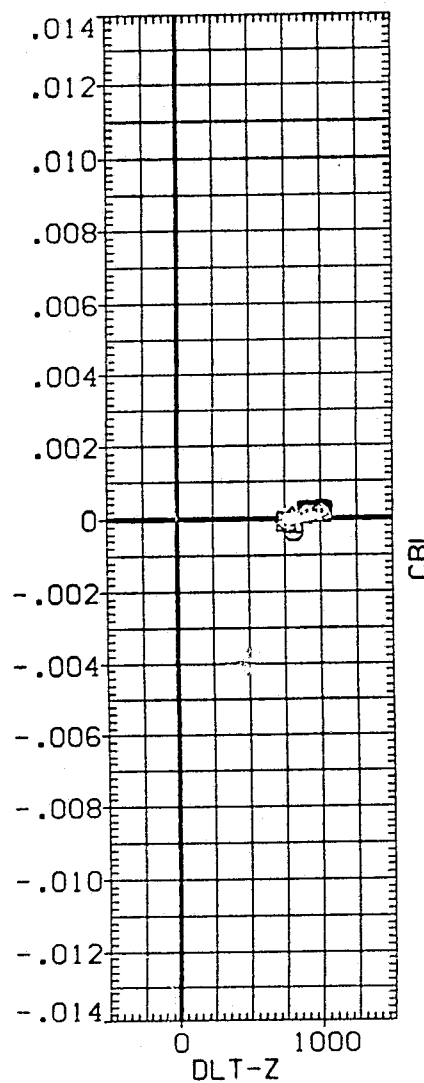
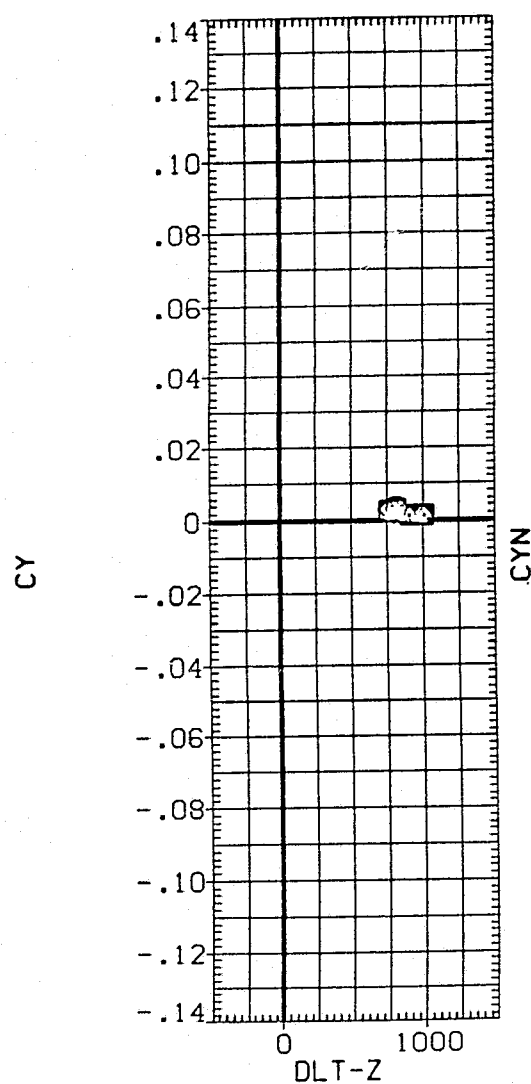


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR143)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.588		.000		-5.000	
□	200.560		3.000		.000	
		DLTBT	.000		7.980	
		AILRON	.000		.000	
		GRID	18.000	PO	420.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

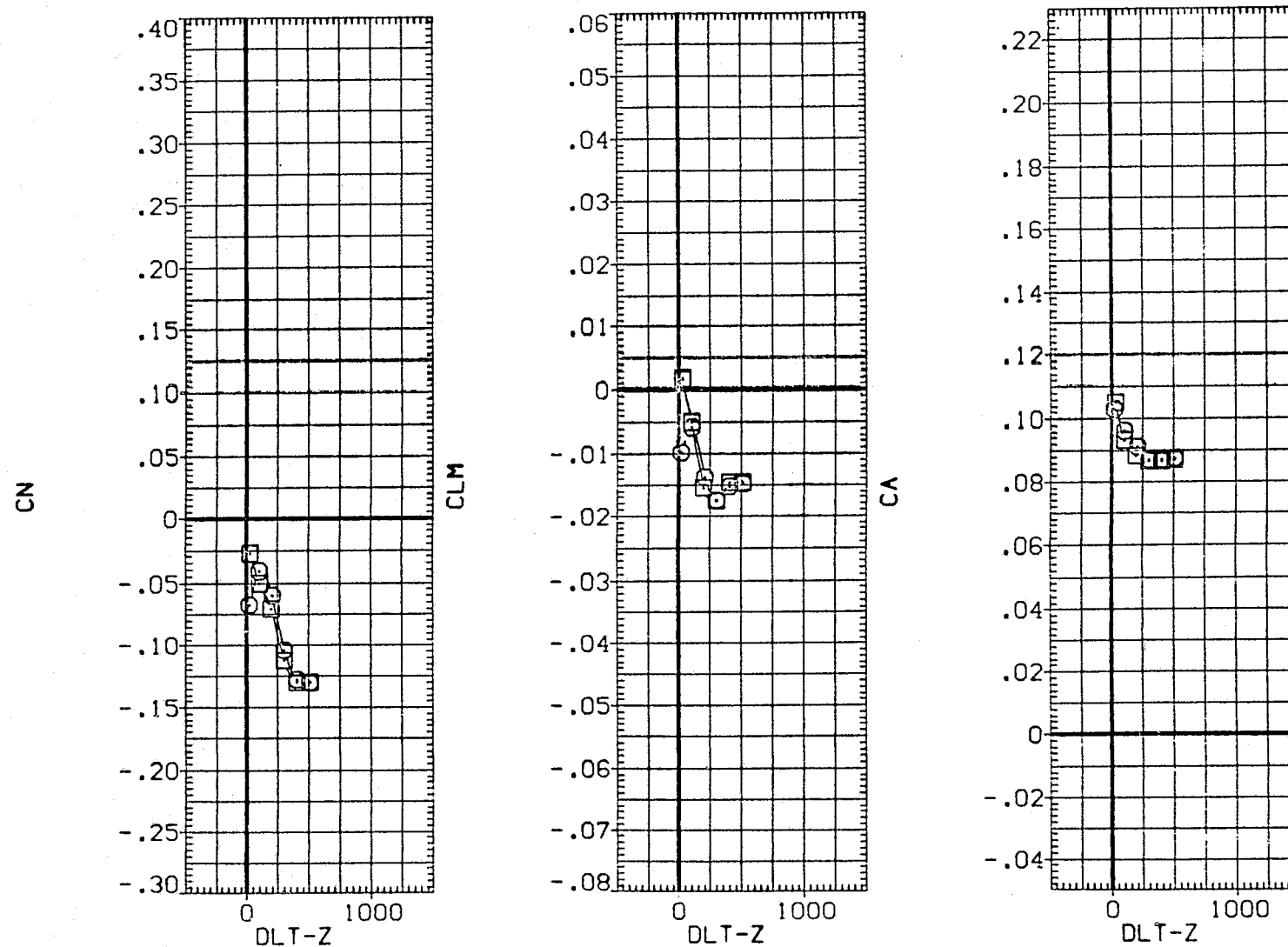


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR143)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	ELEVON
○	.588	BETA	.000	420.000
□	200.560	DLTBT	3.000	
		AILRON	.000	
		GRID	18.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

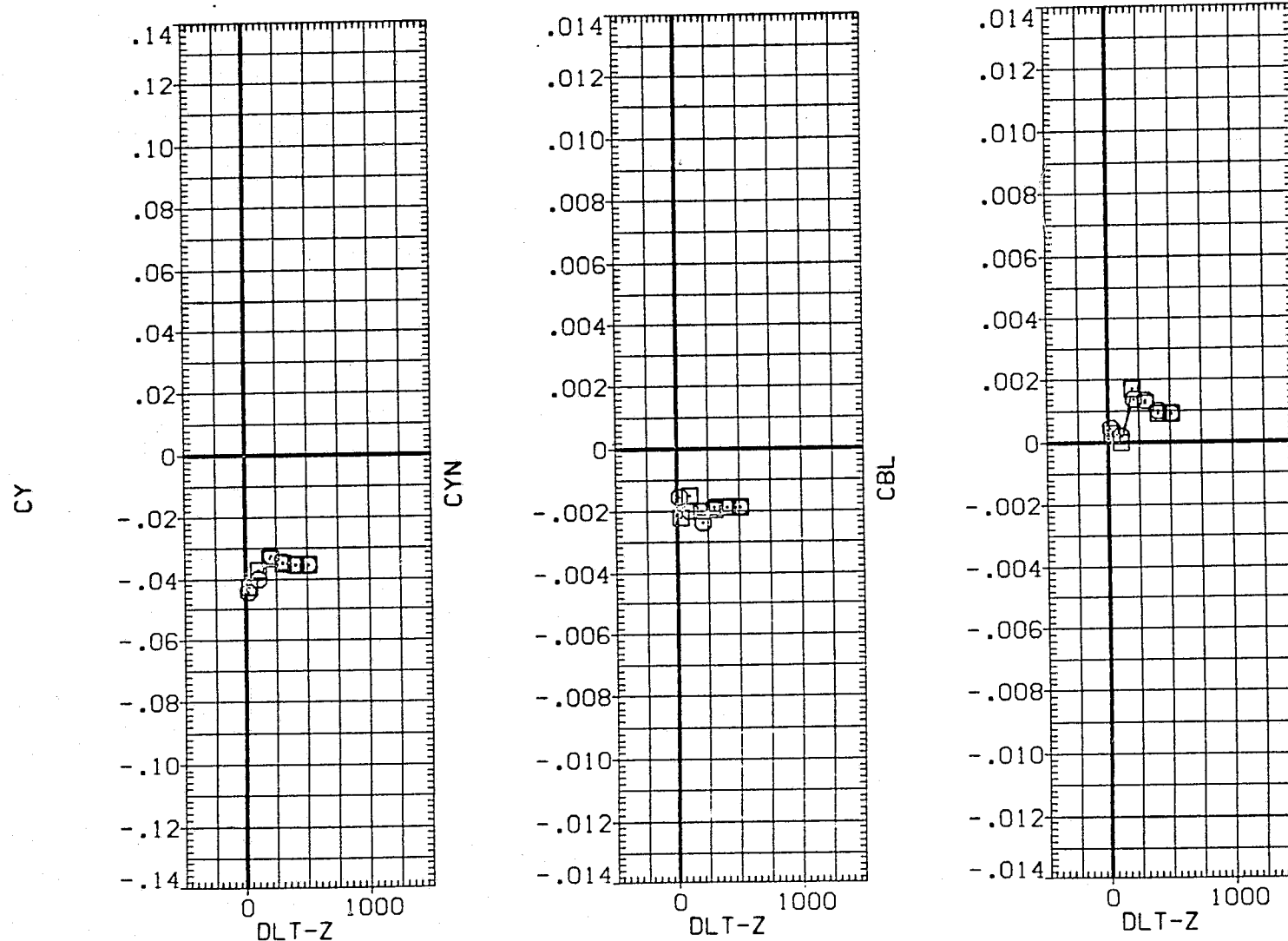


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR144)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.606	.000	ALPHA	-5.000
□	200.540	3.000	DLTALF	-5.000
		.000	MACH	7.980
		.000	ELEVON	.000
		18.000	PG	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SO. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

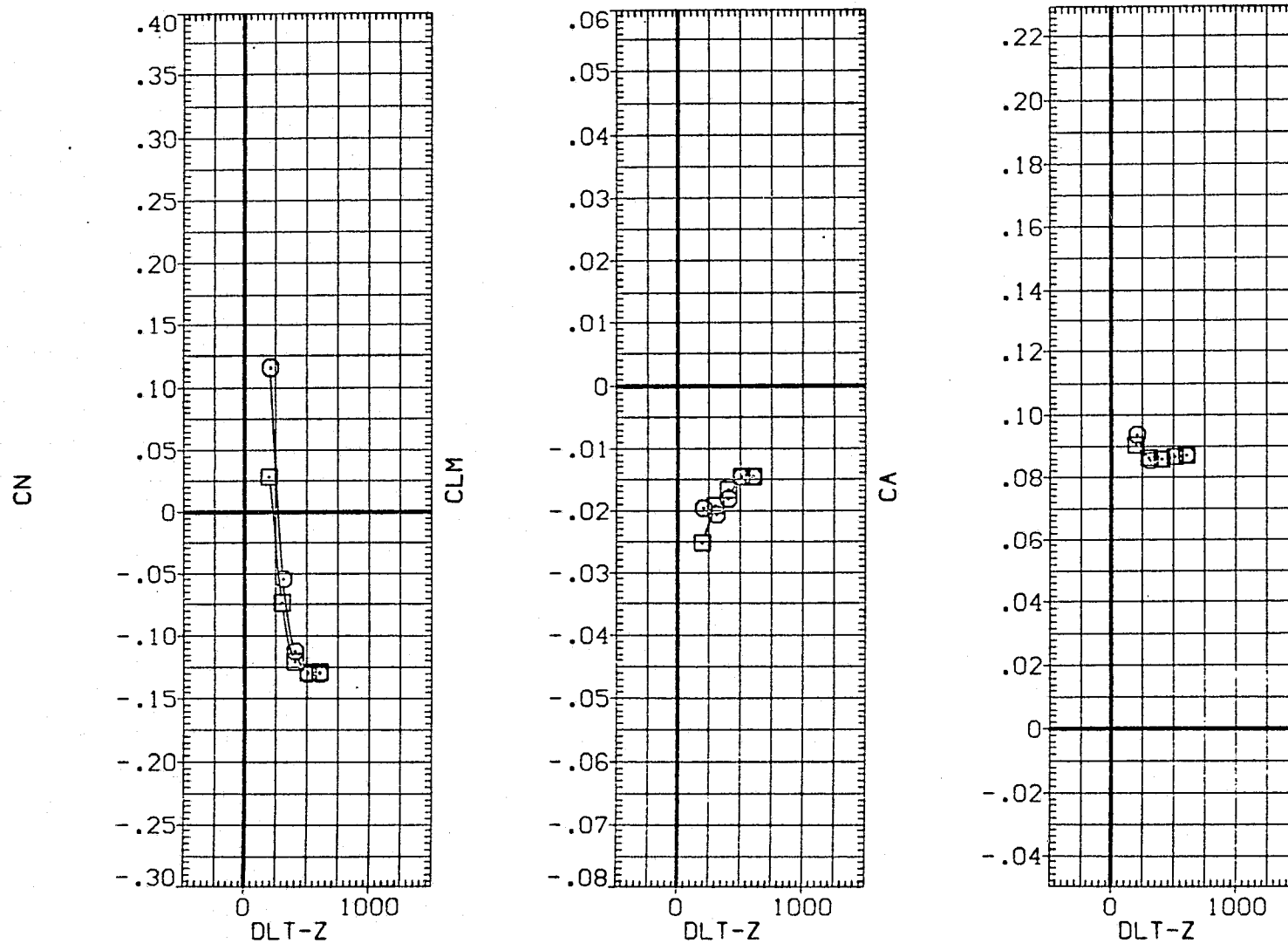


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR144)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.606	.000	ALPHA	-5.000
□	200.540	3.000	DLTALF	-5.000
		.000	MACH	7.980
		.000	ELEVON	.000
		18.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

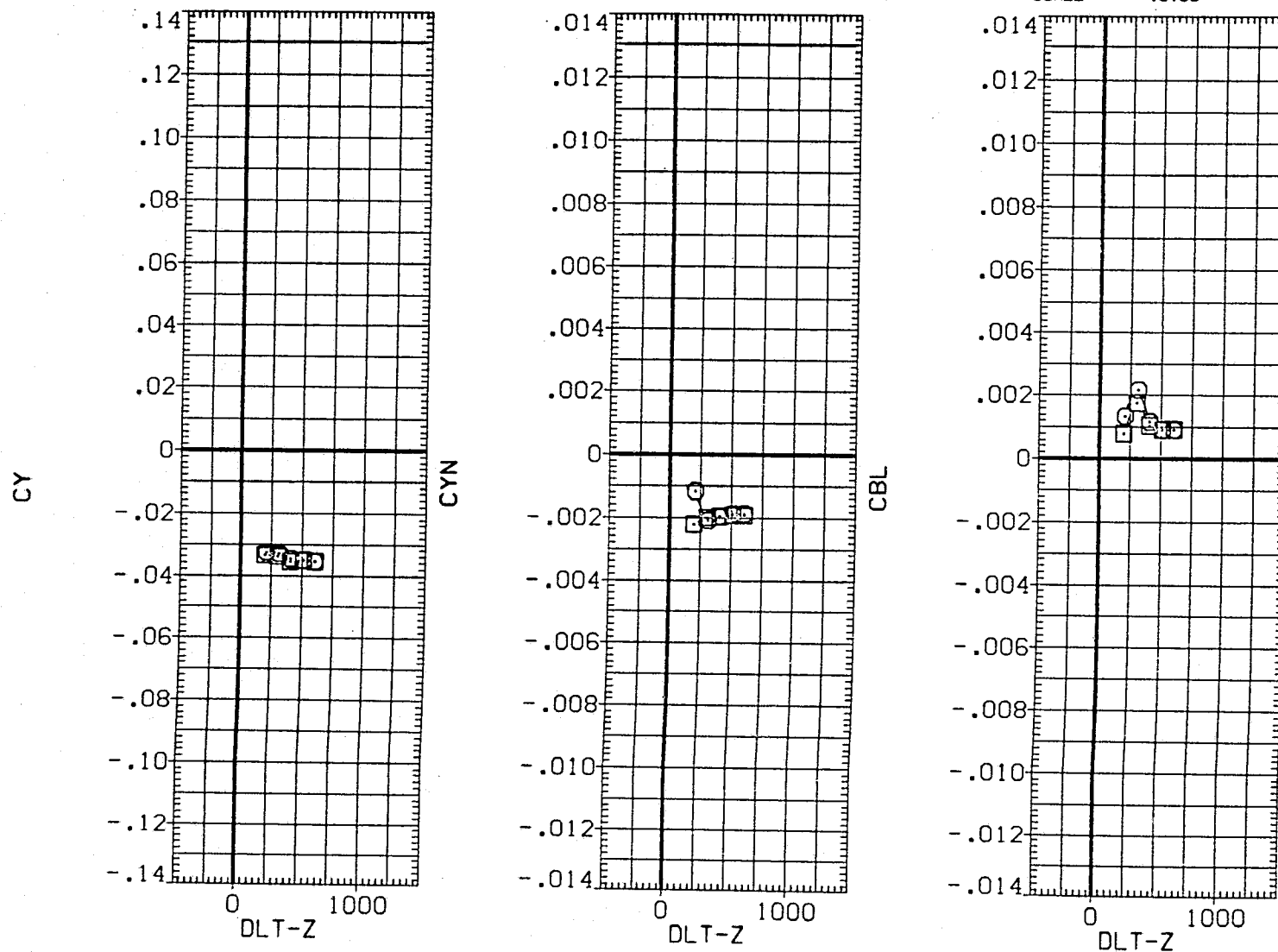


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR145)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.490	DLT-Y	.000	ALPHA	-5.000
□	200.560	BETA	3.000	DLTALF	-10.000
◇	400.520	DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	18.000	PG	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

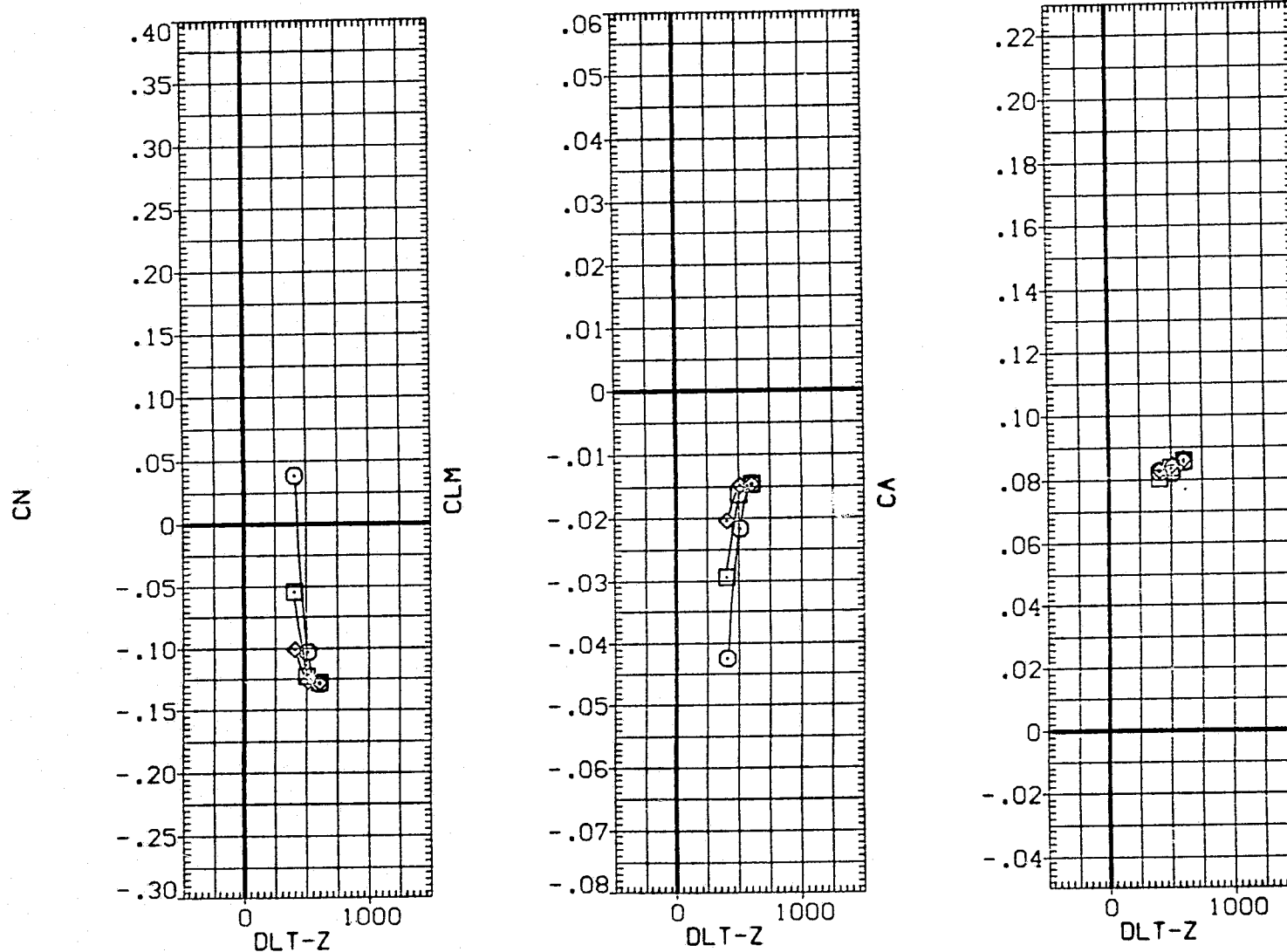


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR145)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	-5.000
○	.490	BETA	.000	DLTALF	-10.000
□	200.560	DLTBTA	3.000	MACH	7.980
◇	400.520	AILRON	.000	ELEVON	.000
		GRID	18.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

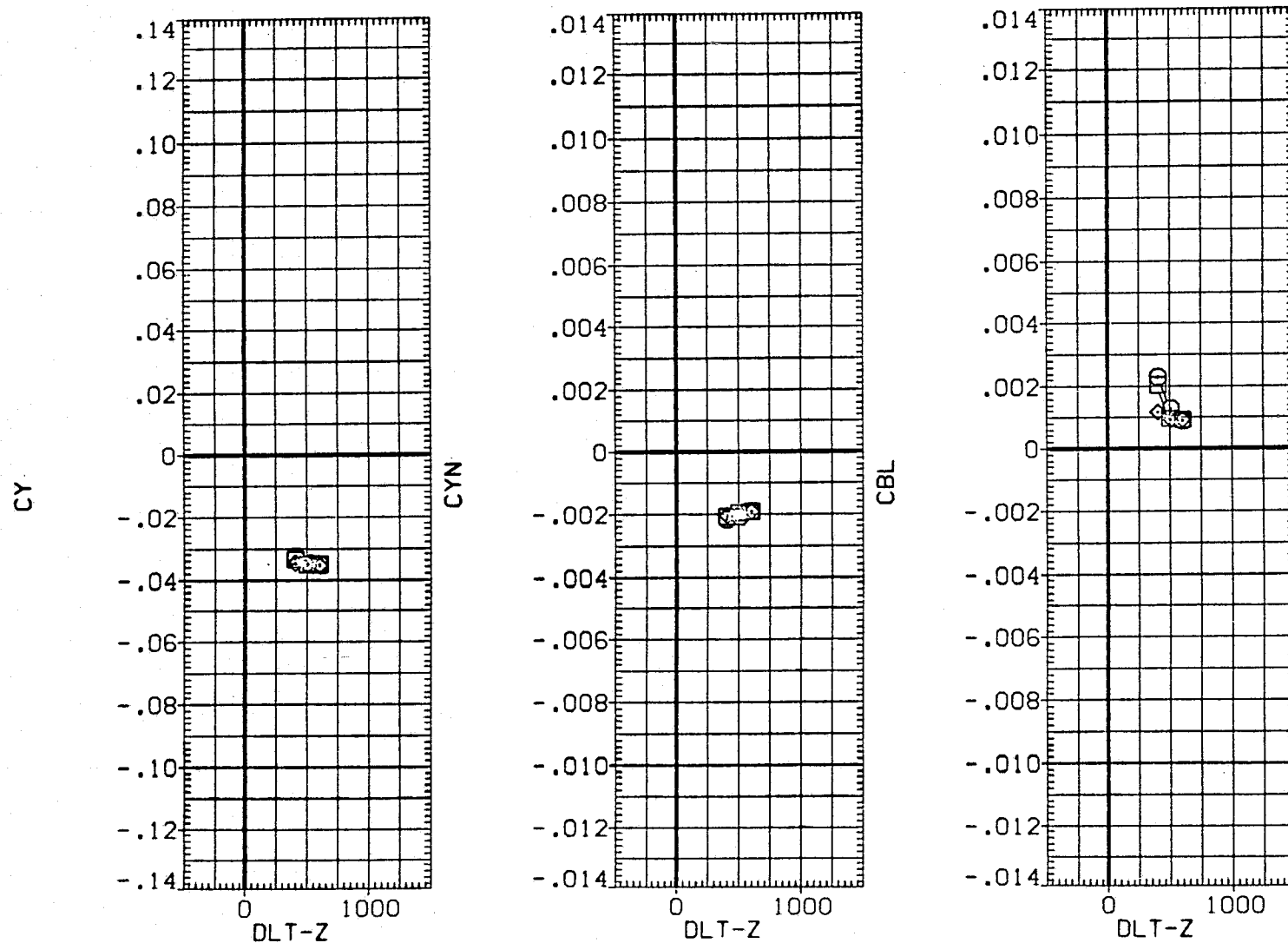


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR146)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.366		.000	-5.000
□	200.420	BETA	3.000	-15.000
◇	400.510	DLTBT	.000	7.980
		AILRON	.000	ELEVON
		GRID	18.000	PC
				420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

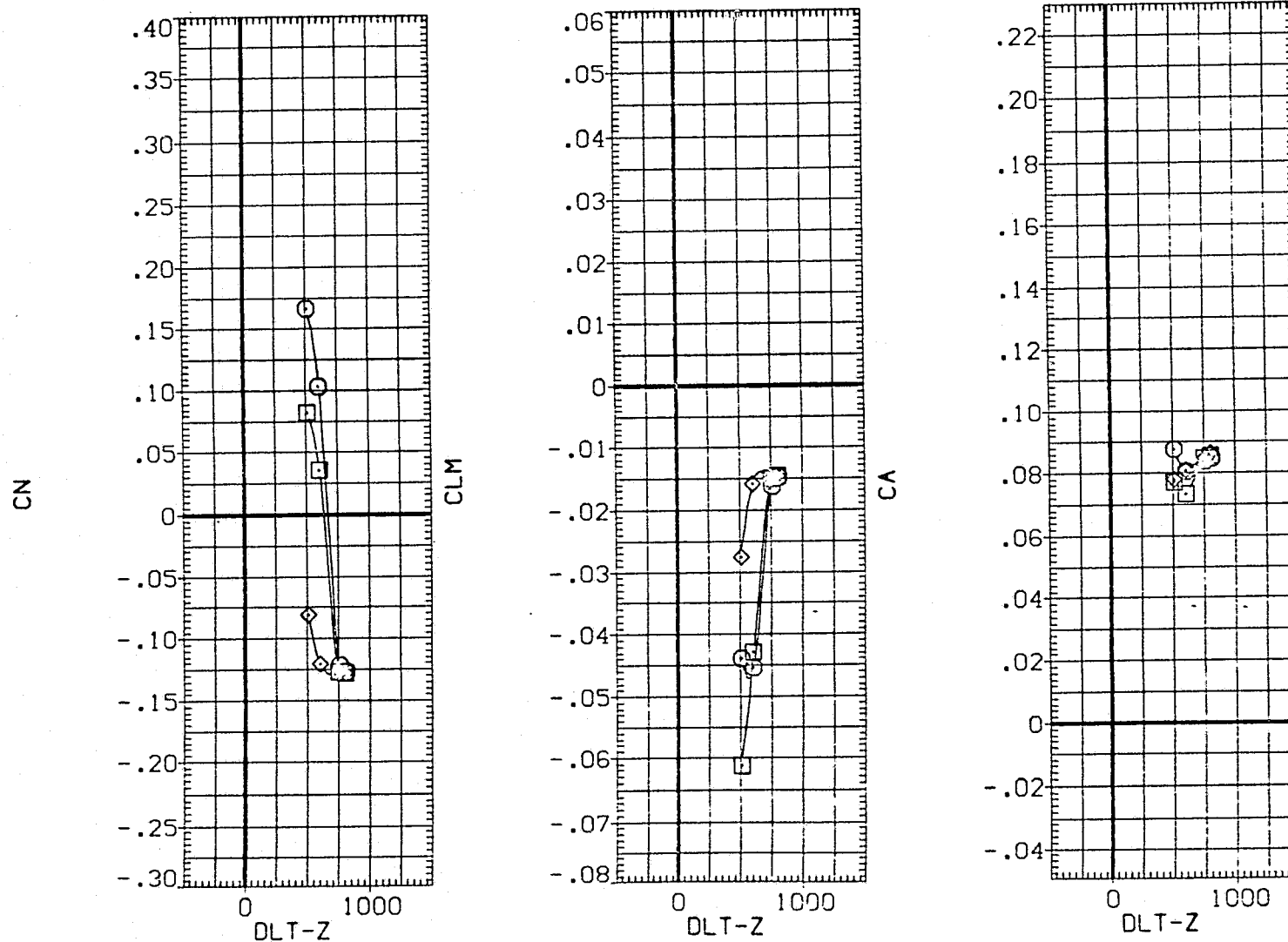


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR146)

SYMBOL		DLT-X	PARAMETRIC VALUES			
○		.366	DLT-Y	.000	ALPHA	-5.000
□		200.420	BETA	3.000	DLTALF	-15.000
◇		400.510	DLTBTA	.000	MACH	7.980
			AIRLON	.000	ELEVON	.000
			GRID	18.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

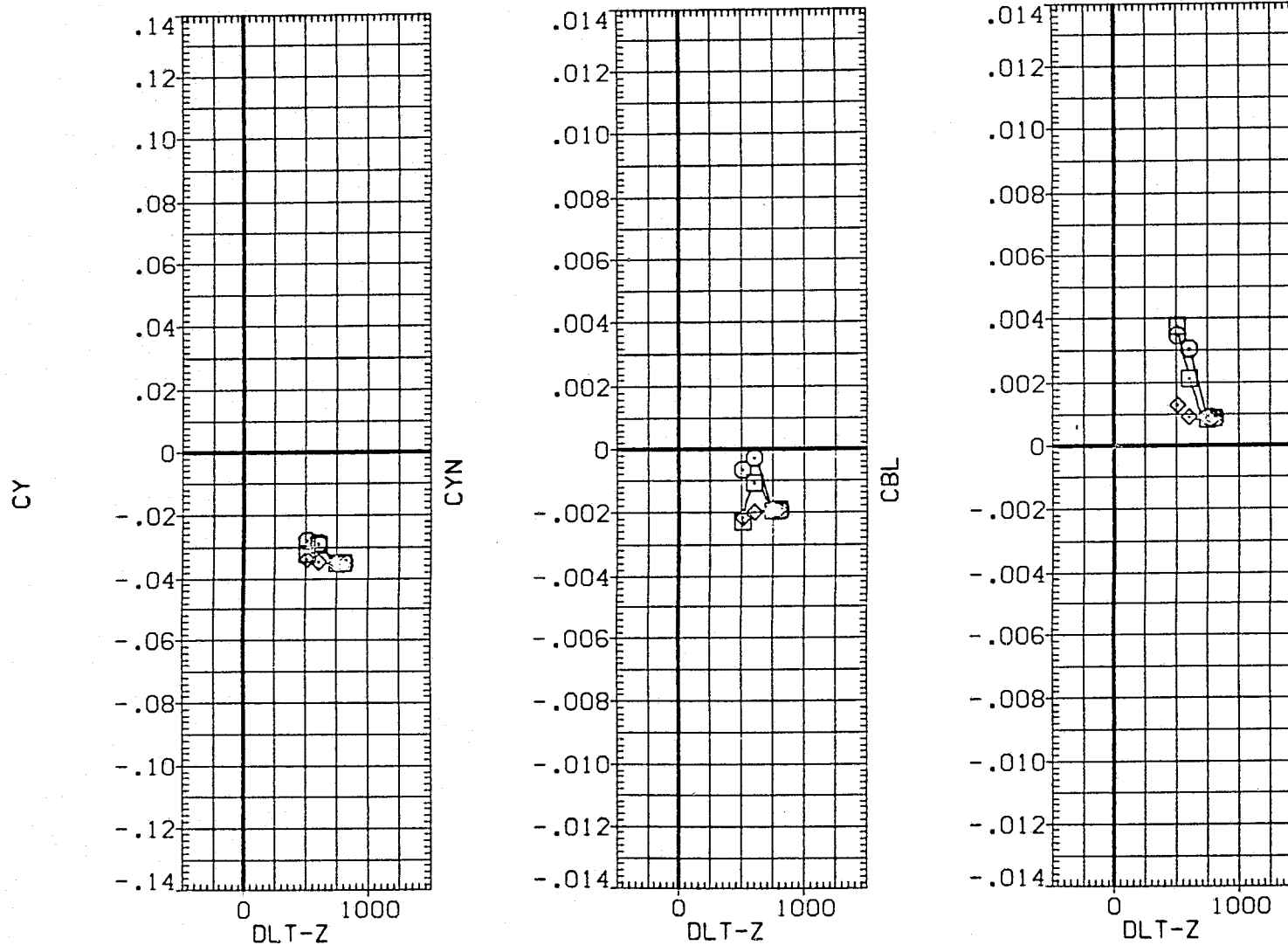


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR148)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.432	DLT-Y .000 ALPHA -5.000
□	200.430	BETA 3.000 DLTALF -20.000
◇	400.440	DLTBTA .000 MACH 7.980
		AILRON .000 ELEVON .000
		GRID 18.000 PG 370.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

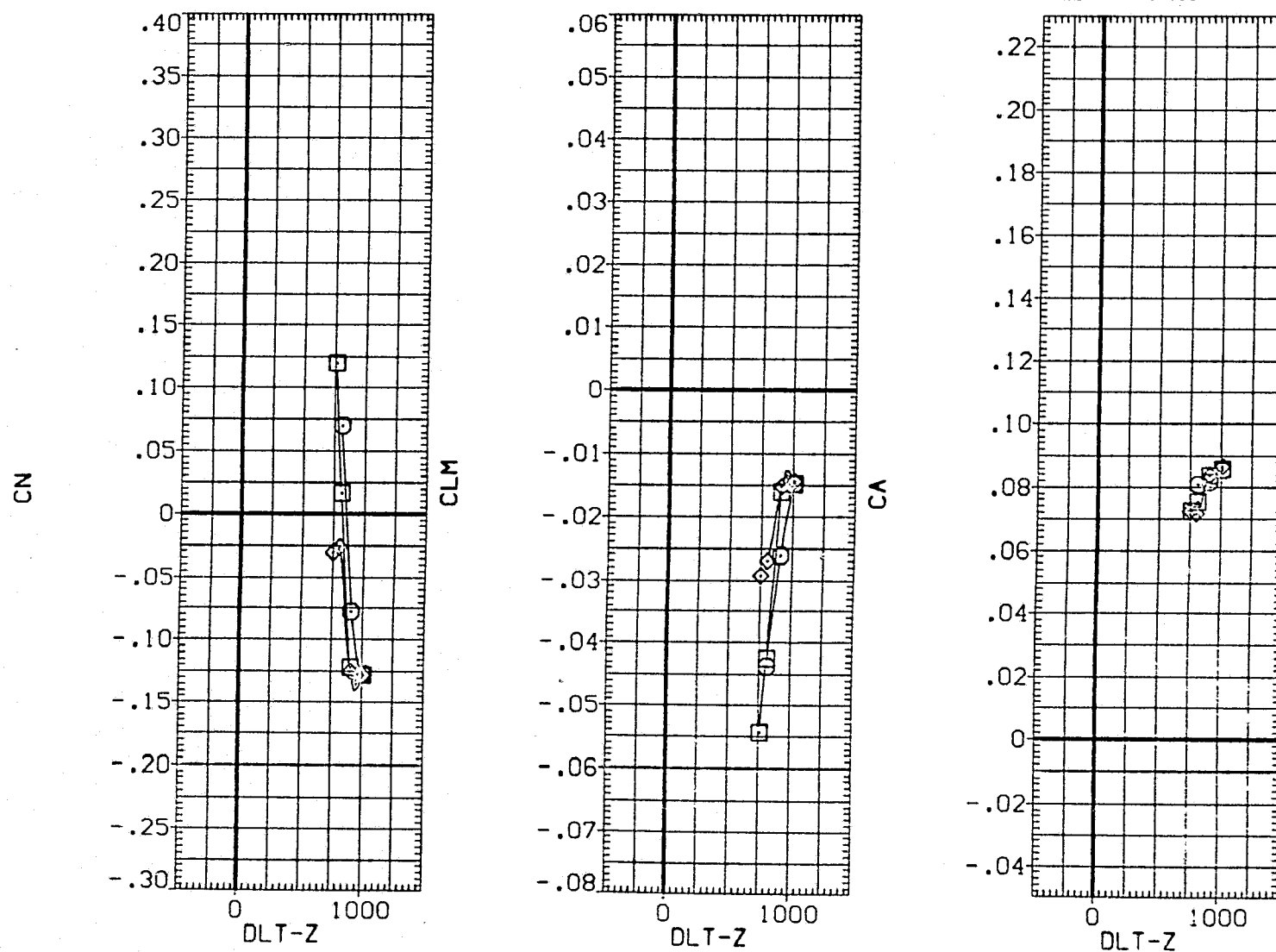


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR148)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.432	.000	ALPHA	-5.000
□	200.430	3.000	DLTALF	-20.000
◇	400.440	.000	MACH	7.980
		.000	ELEVON	.000
		18.000	PG	370.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

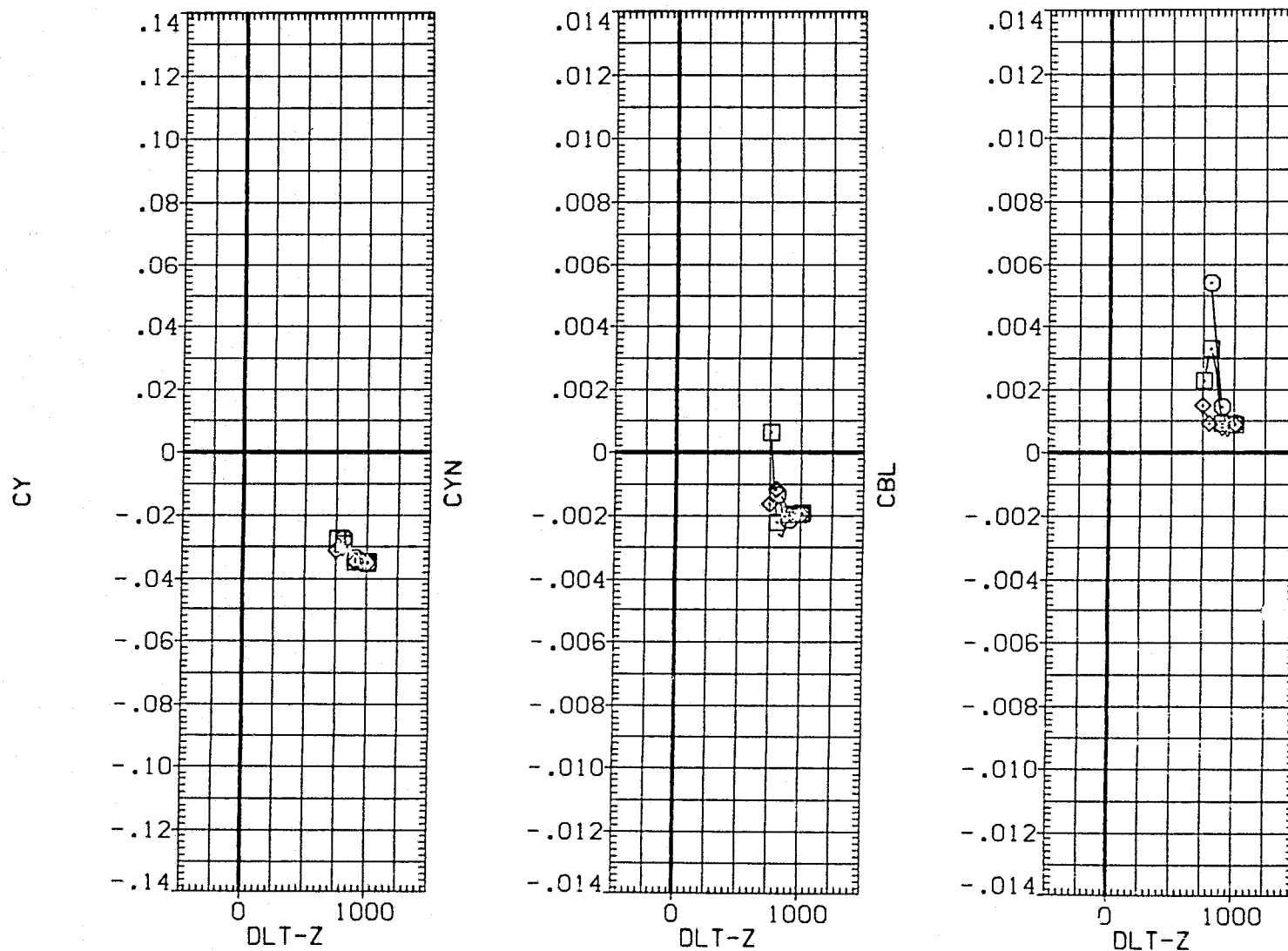


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR167)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.539	.000		-10.000
□	200.460	3.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		8.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. XO
YM RP	.0000	IN. YO
ZM RP	375.0000	IN. ZO
SCALE	.0100	

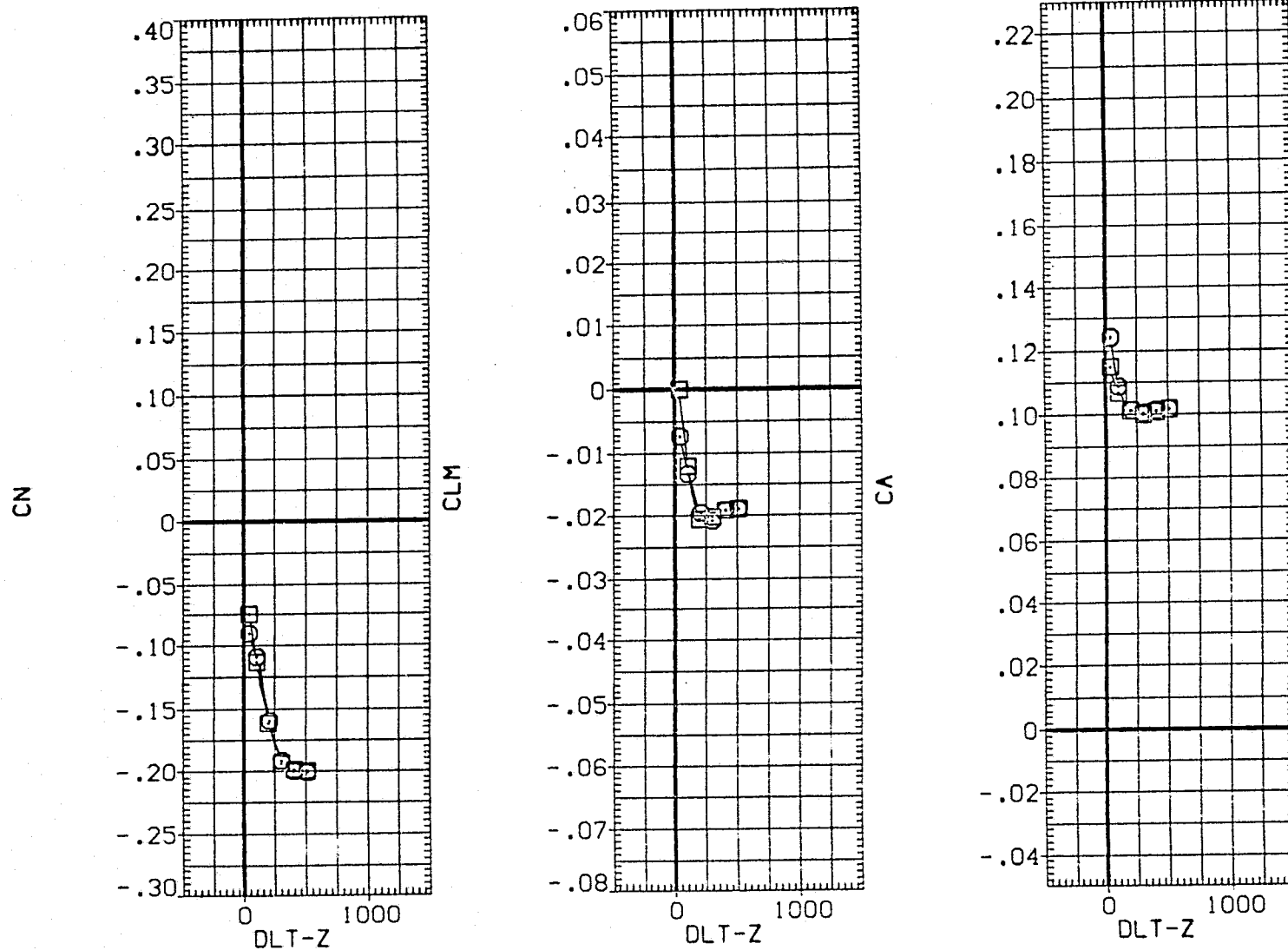


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR167)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.539	DLT-Y	.000	ALPHA	-10.000
□	200.460	BETA	3.000	DLTALF	.000
		DLTBT	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	8.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

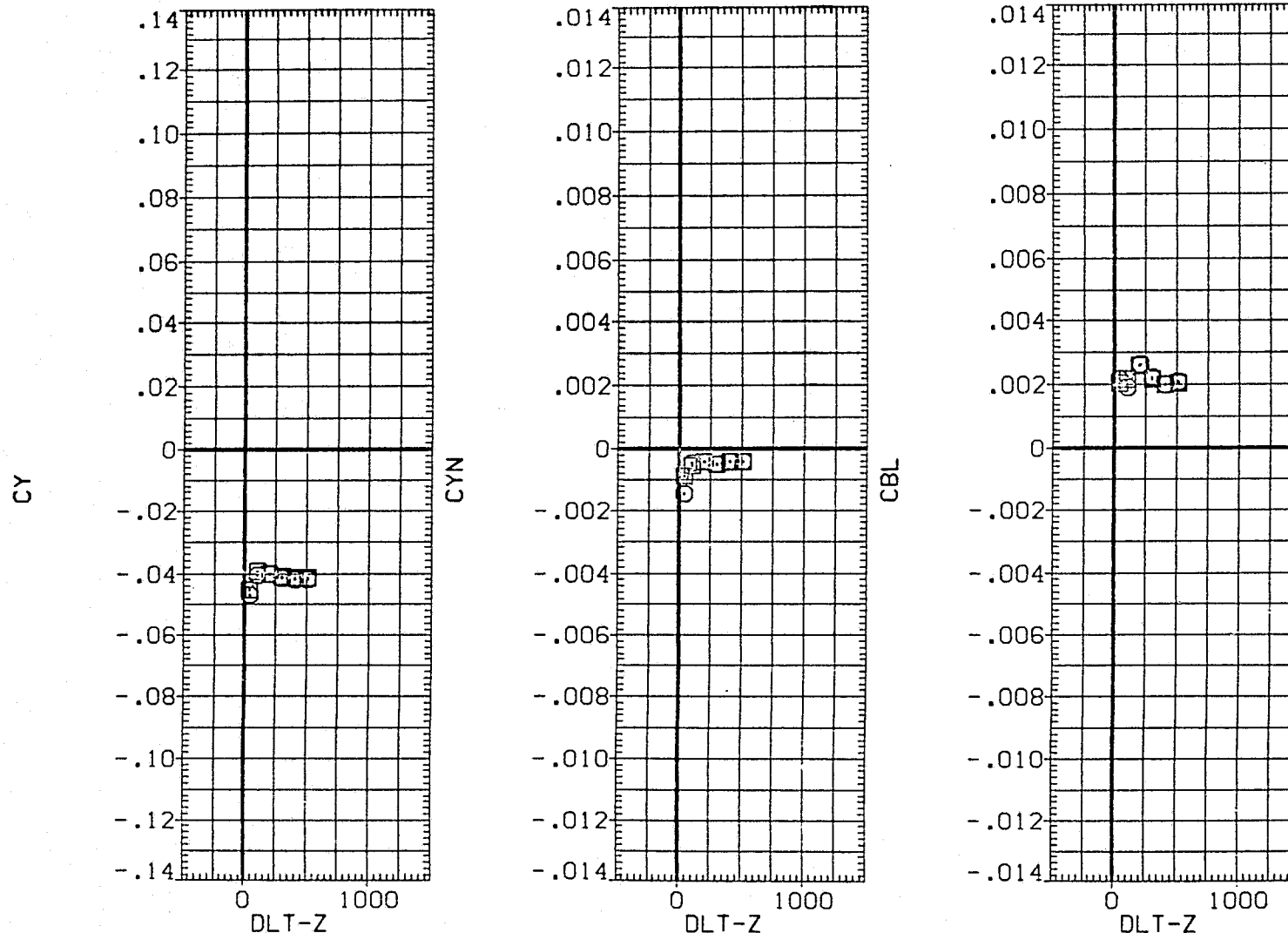


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR168)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.420	.000	ALPHA	-10.000
□	200.410	3.000	DLTALF	-5.000
		.000	MACH	7.980
		.000	ELEVON	.000
		8.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

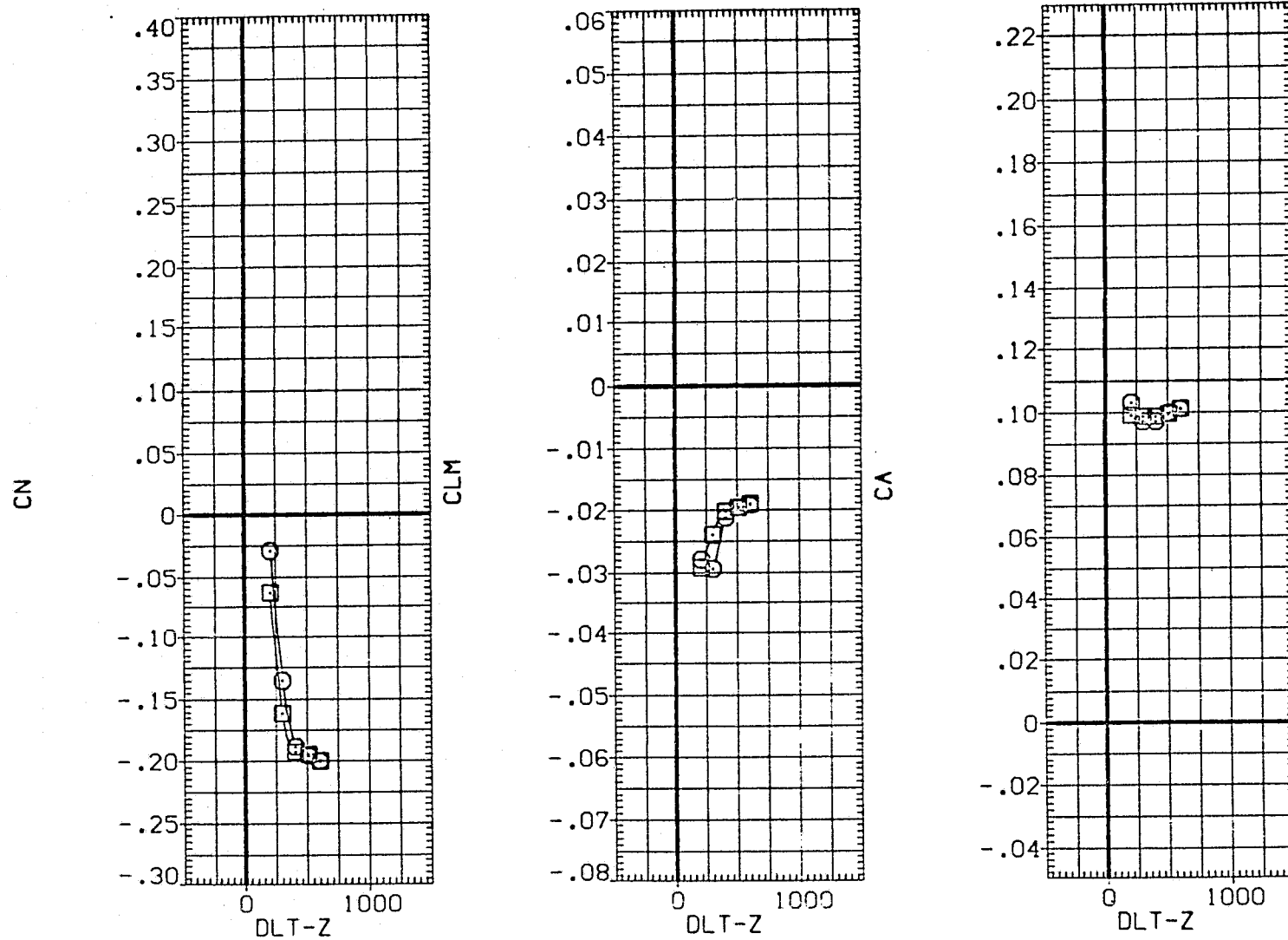


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR168)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.420	BETA	.000	-10.000
□	200.410	DLTBT	3.000	-5.000
		AILRON	.000	7.980
		GRID	.000	ELEVON
			8.000	P0
				300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

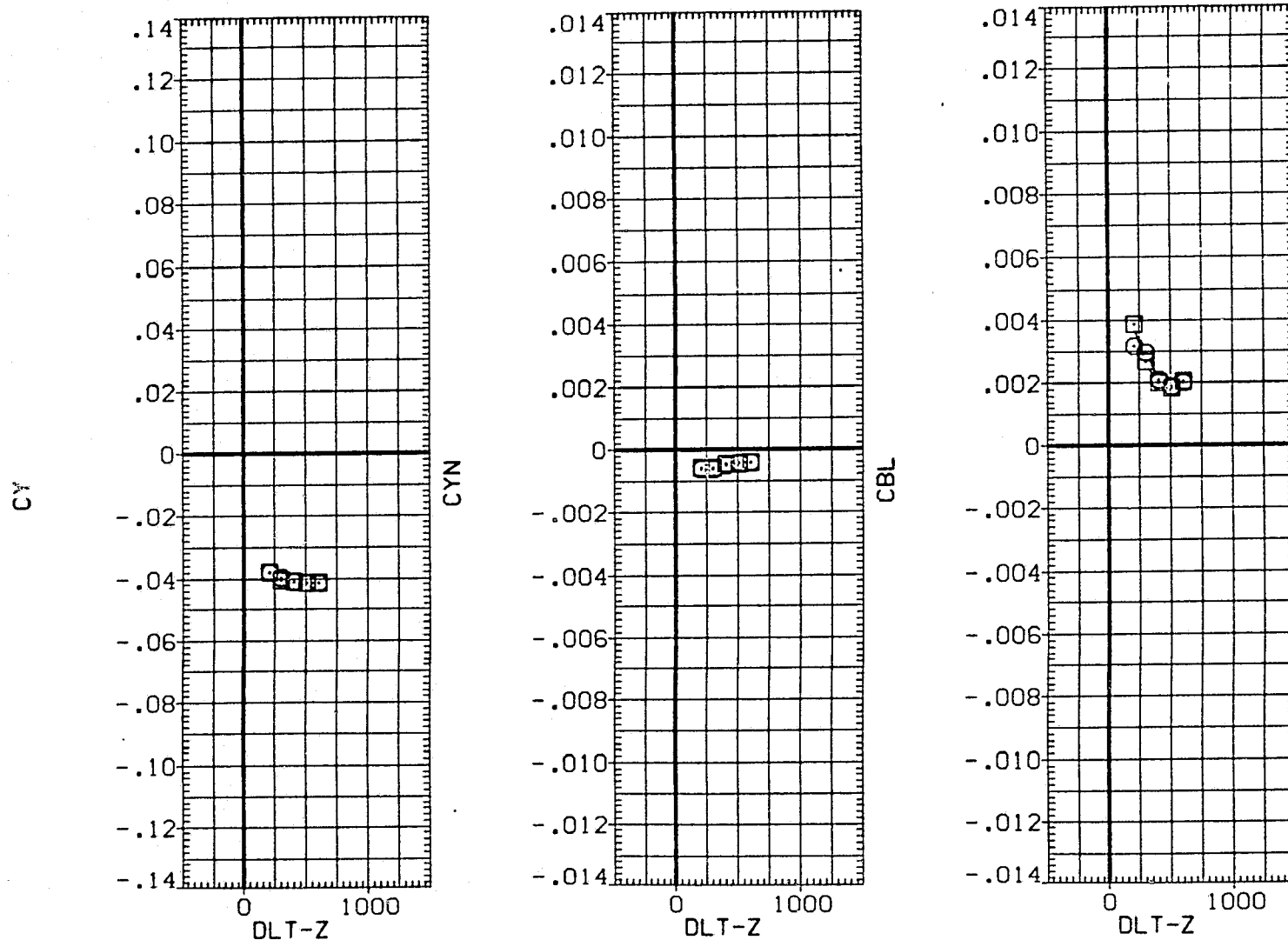


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR169)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	DLTALF
○	.456	.000		-10.000	-10.000
□	200.330	3.000			
◇	400.540	.000			
		DLTSTA	MACH	7.980	
		AILRON	ELEVON	.000	
		GRID	PO	300.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

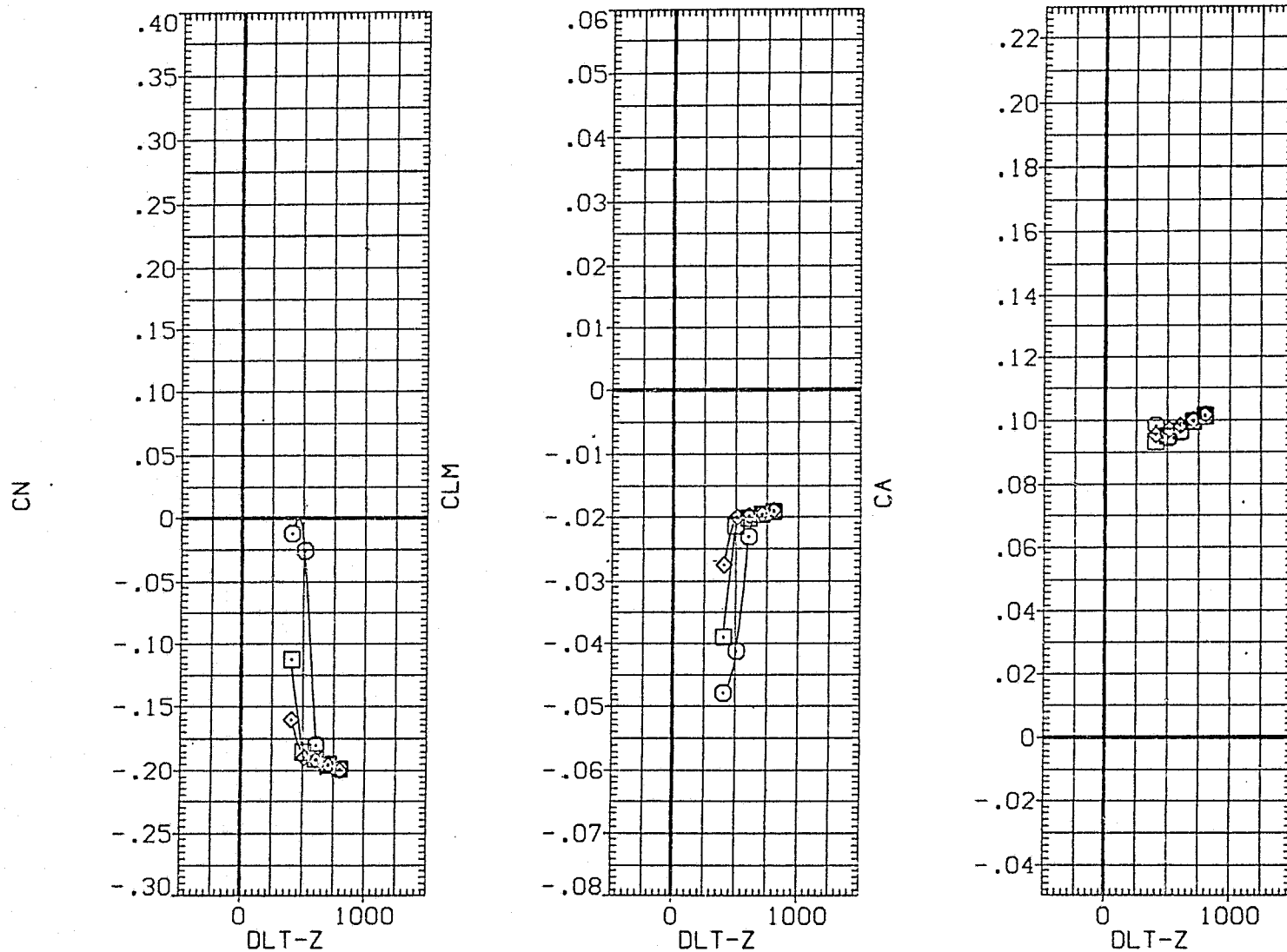


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR169)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.456	DLT-Y	.000	ALPHA	-10.000
□	200.330	BETA	3.000	DLTALF	-10.000
◇	400.540	DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	8.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

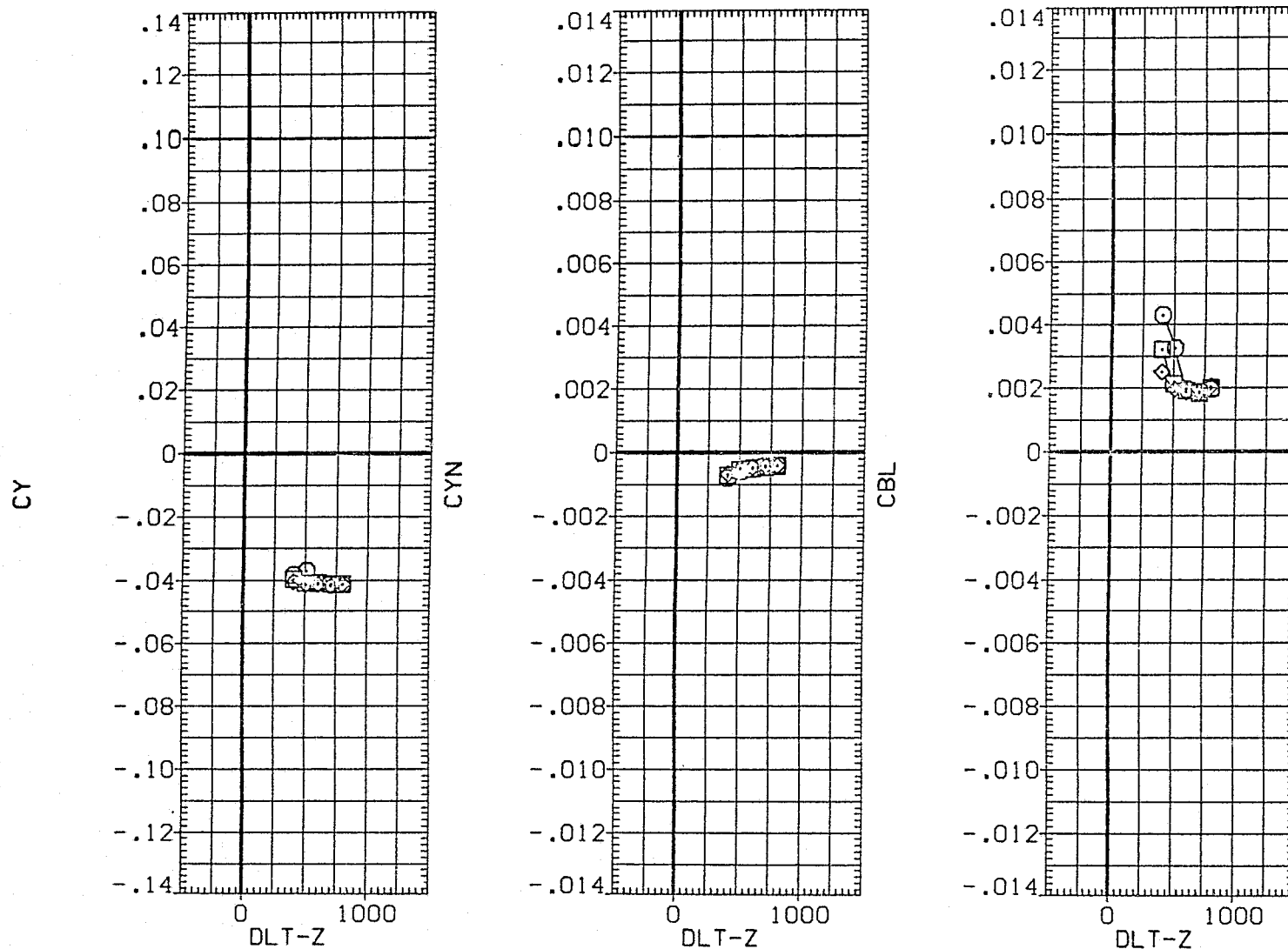


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR170)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.412	.000	ALPHA -10.000
□	200.290	BETA 3.000	DLTALF -15.000
◇	400.490	DLTBTA .000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 8.000	PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

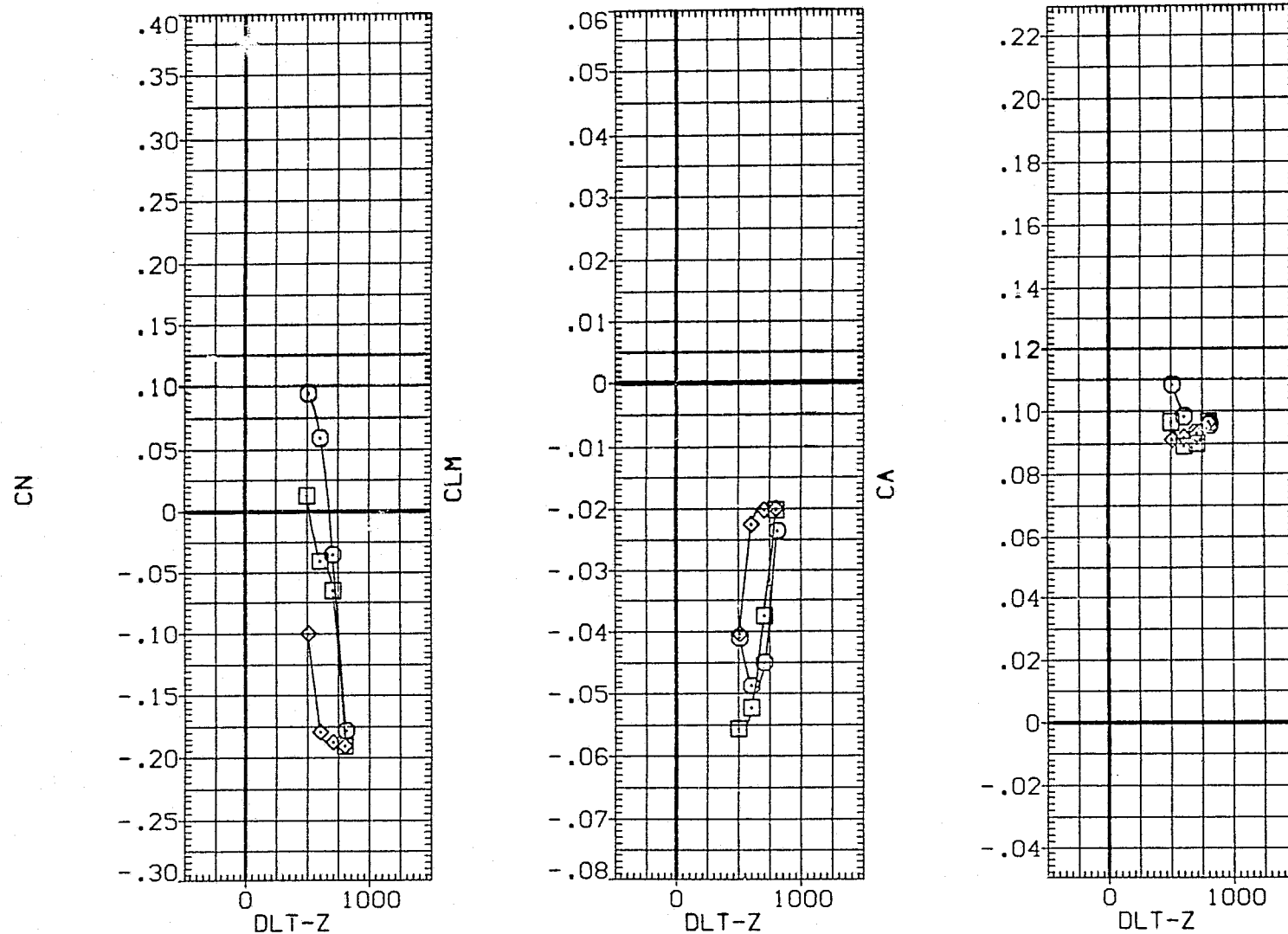


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR170)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.412	.000	ALPHA	-10.000
□	200.290	BETA 3.000	DLTALF	-15.000
◇	400.490	DLTBTA .000	MACH	7.980
		AILRON .000	ELEVON	.000
		GRID 8.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

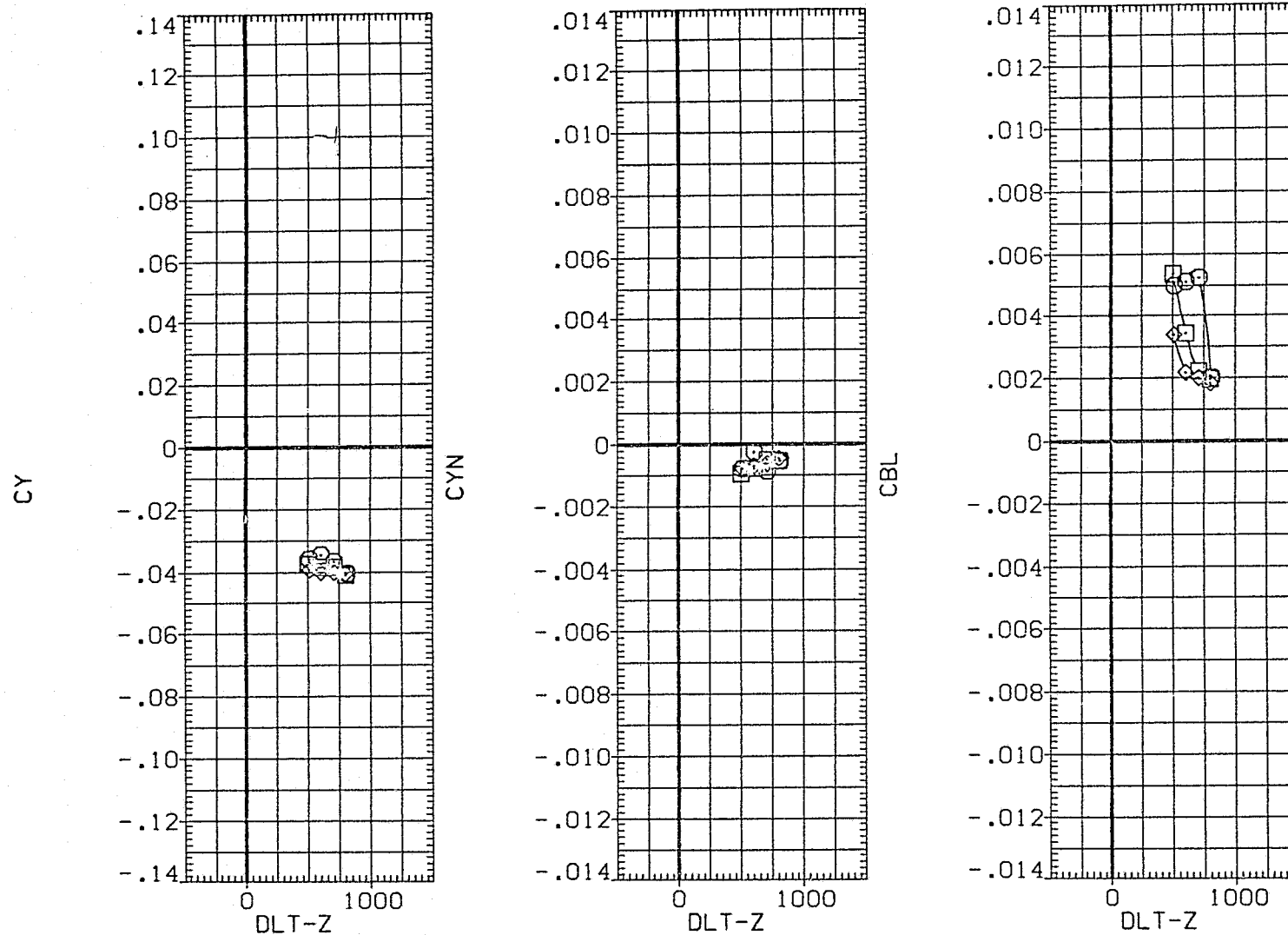


FIGURE 9 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR155)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
O	.501	BETA	.000	.000
		DLTBT	.000	DLTALF
		AILRON	.000	MACH
		GRID	21.000	ELEVON
			PC	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

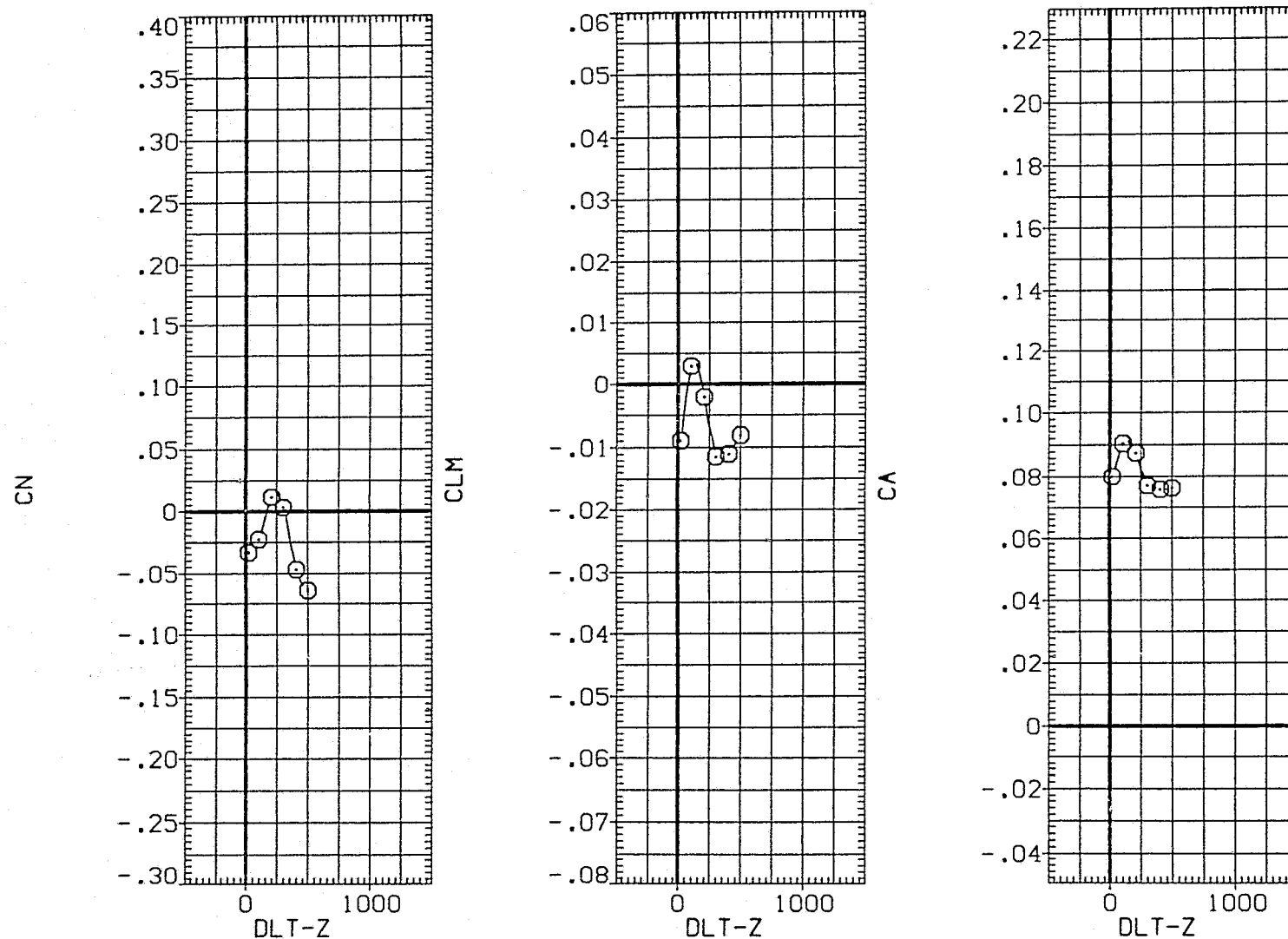


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR155)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.501	DLT-Y .000 ALPHA .000
		BETA .000 DLTALF .000
		DLTBTA .000 MACH 7.980
		AILRON .000 ELEVON -20.000
		GRID 21.000 P0 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

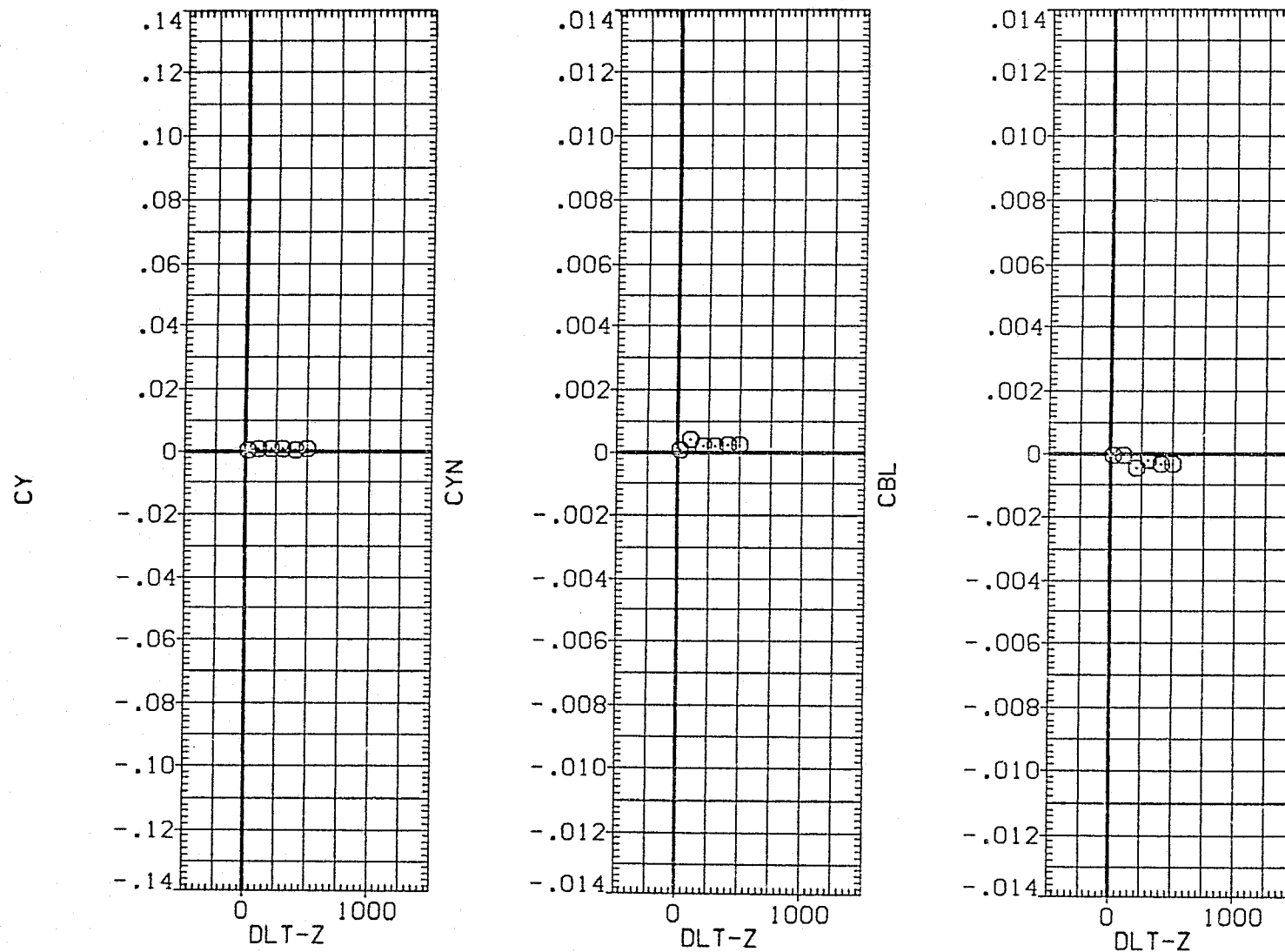


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR156)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.508	.000	BETA	.000
		.000	DLTALF	-10.000
		.000	MACH	7.980
		.000	ELEVON	-20.000
		21.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

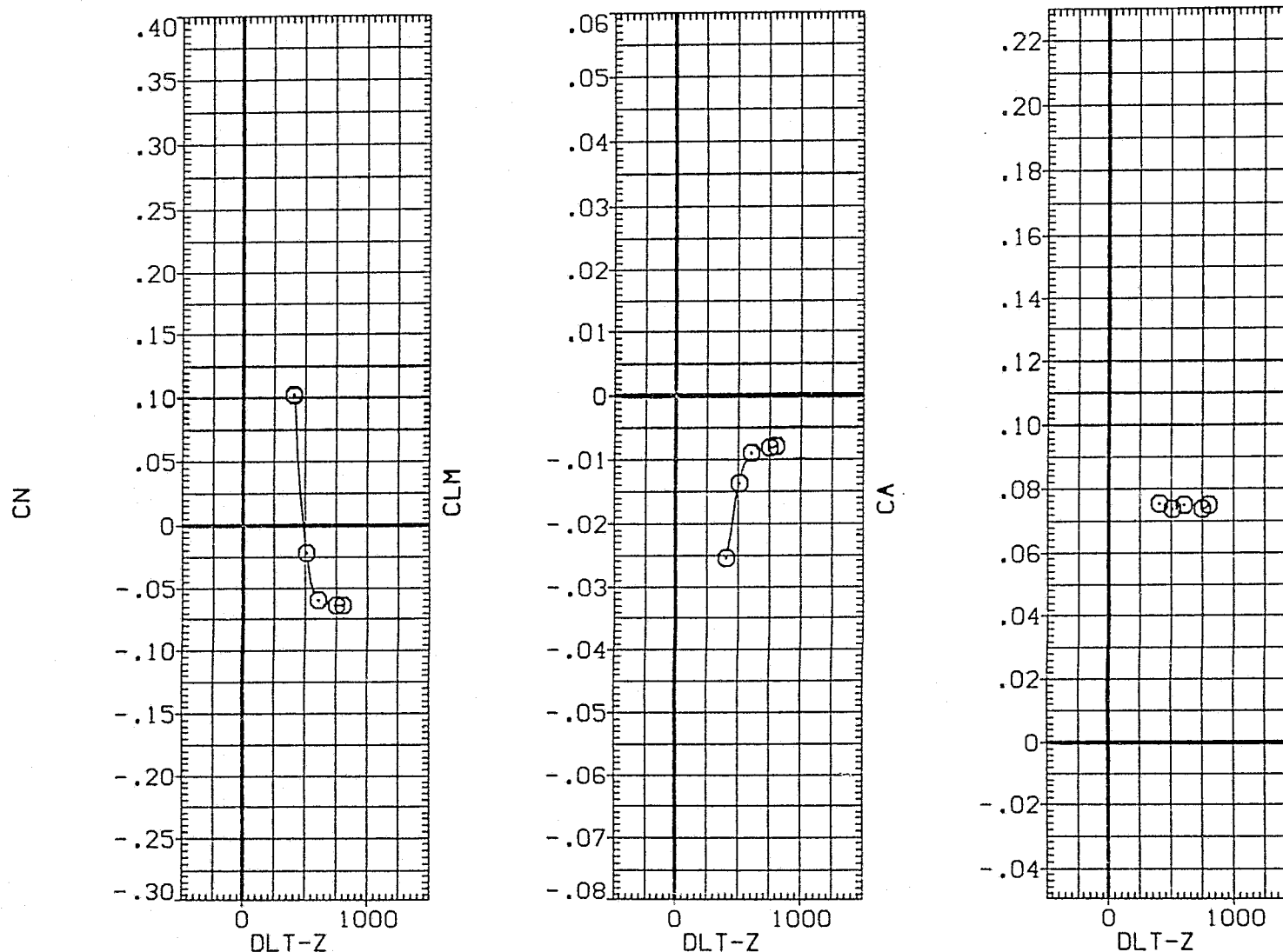


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR156)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.508	DLT-Y .000 ALPHA .000
		BETA .000 DLTALF -10.000
		DLTBTA .000 MACH 7.980
		AILRON .000 ELEVON -20.000
		GRID 21.000 PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

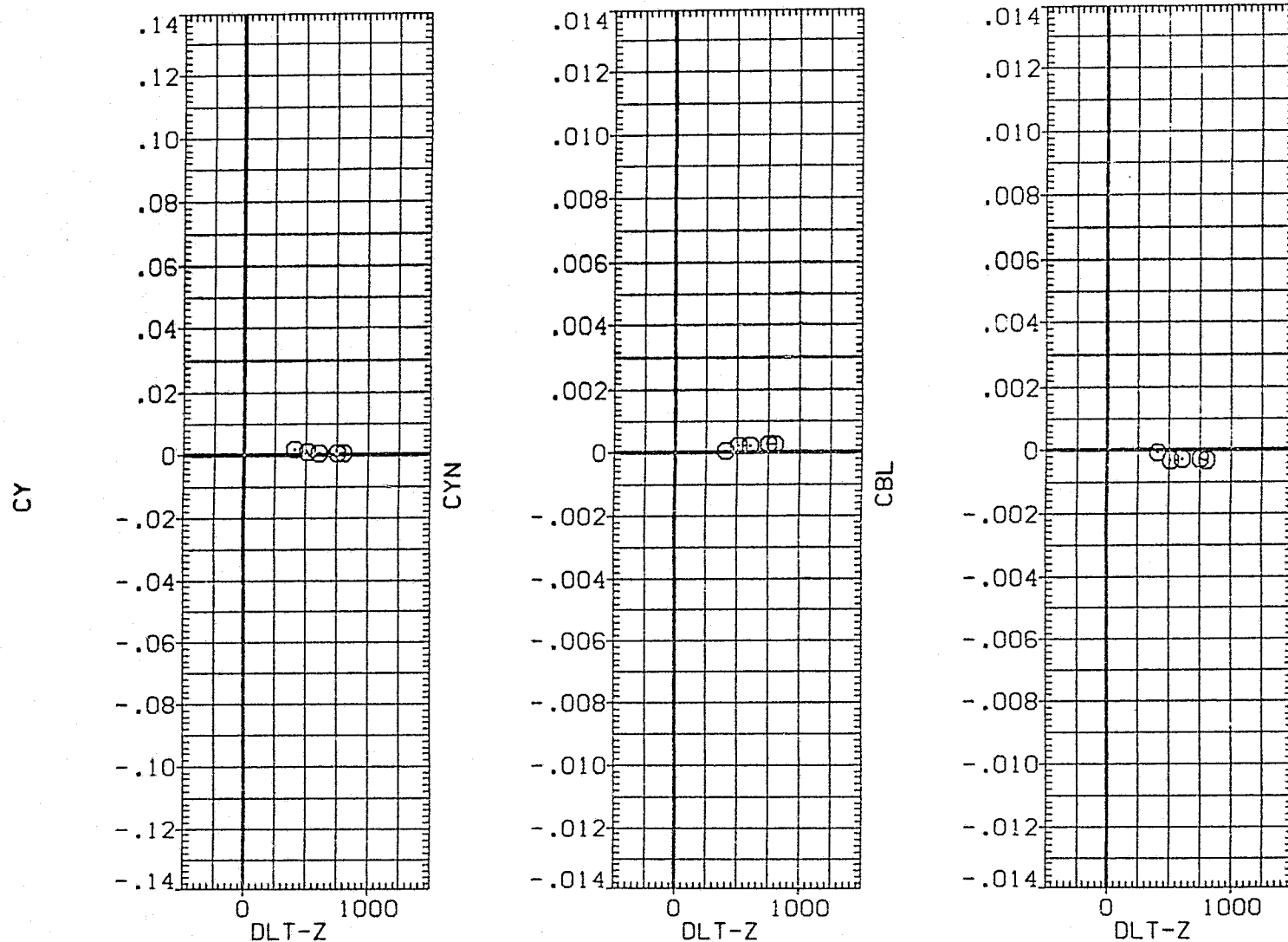


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR157)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON	PO
O	.392	.000	.000	.000	.000	21.000		.000	-20.000	7.980	-20.000	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO, FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

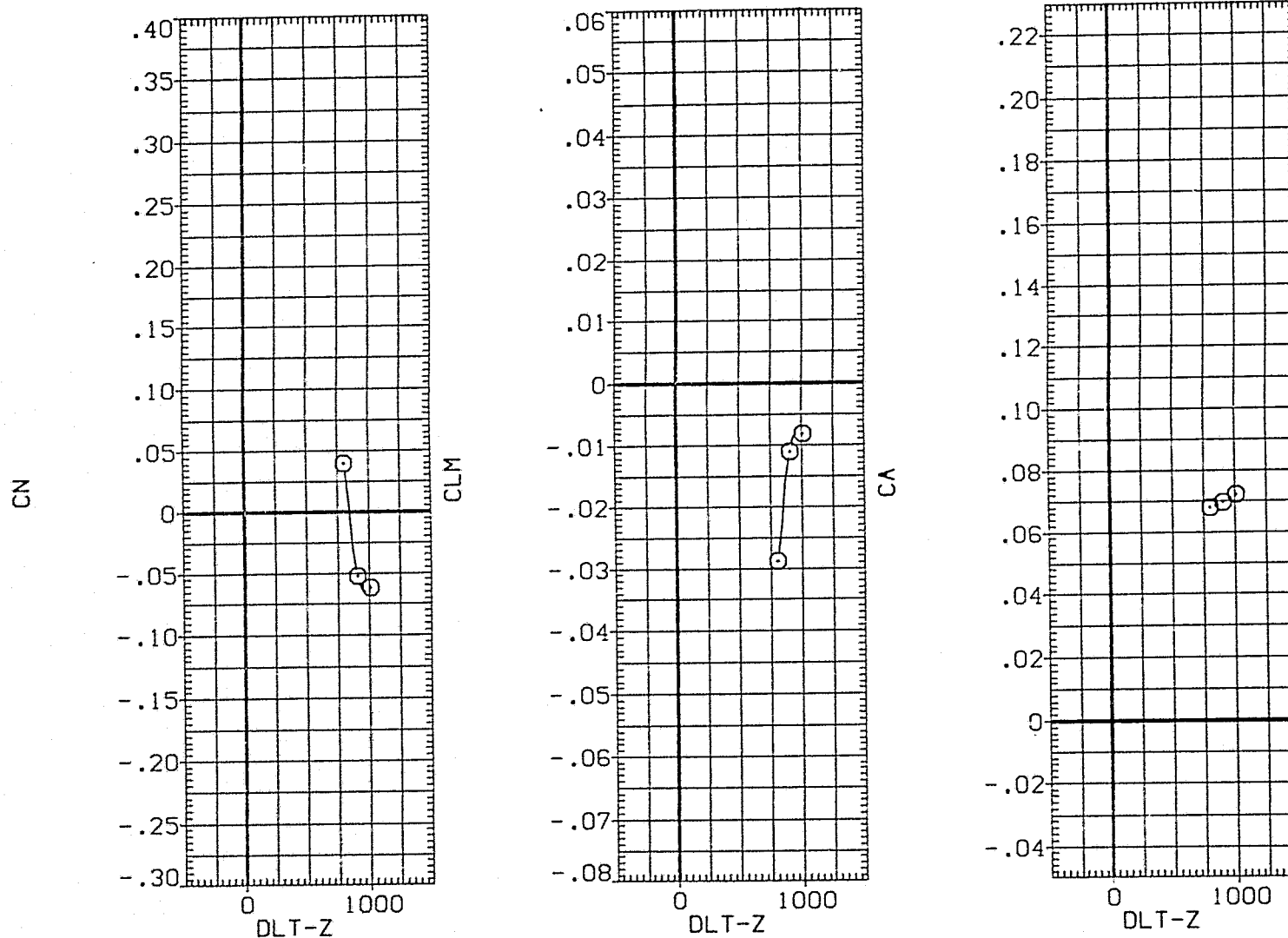


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR157)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.392	DLT-Y .000 ALPHA .000
		BETA .000 DLTALF -20.000
		DLTBTA .000 MACH 7.980
		AILRON .000 ELEVON -20.000
		GRID 21.000 PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

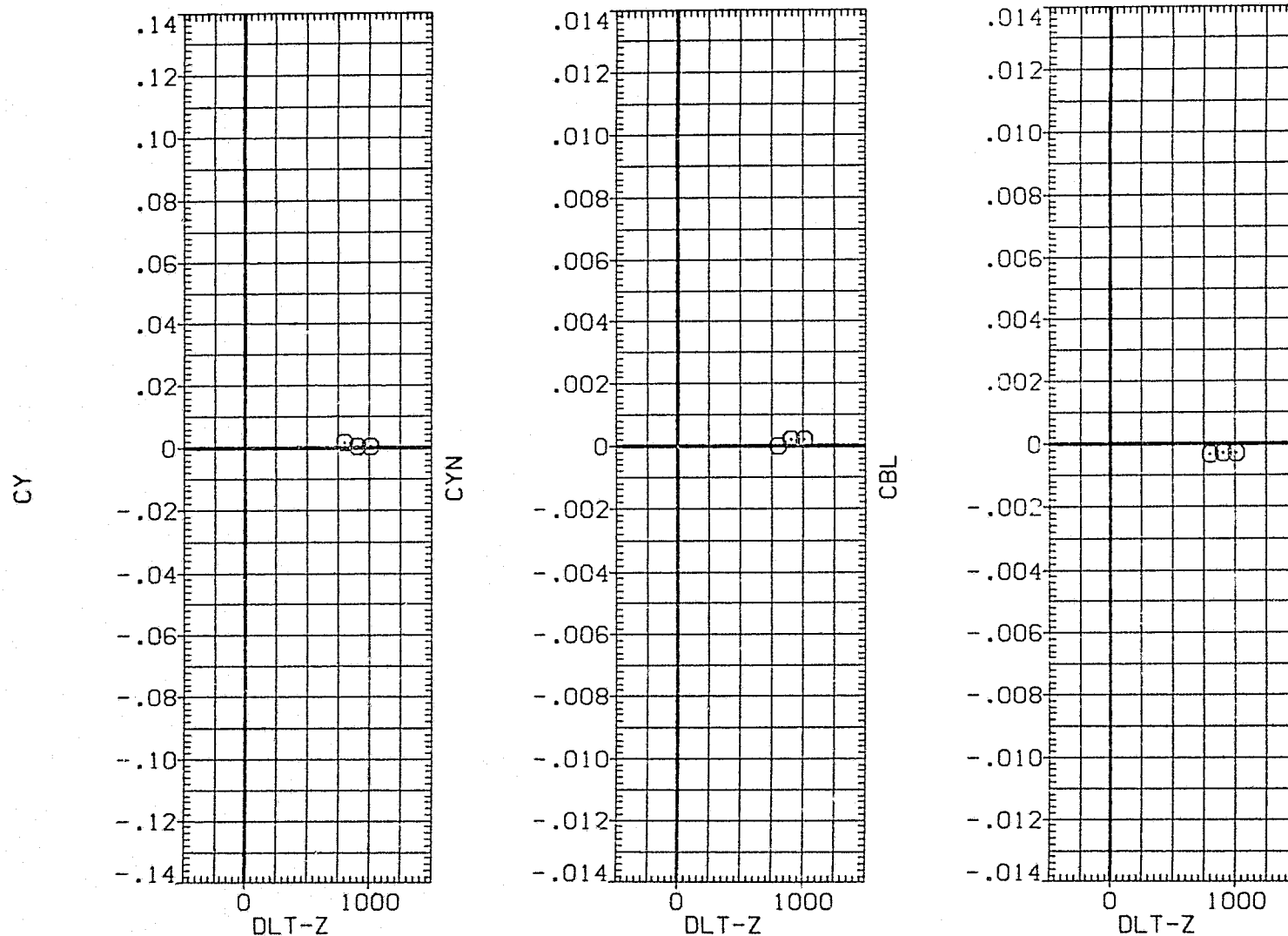


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR158)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.431	BETA	.000	-5.000
		DLTBTA	.000	.000
		ATLRON	.000	7.980
		GRID	20.000	ELEVON -20.000
			PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

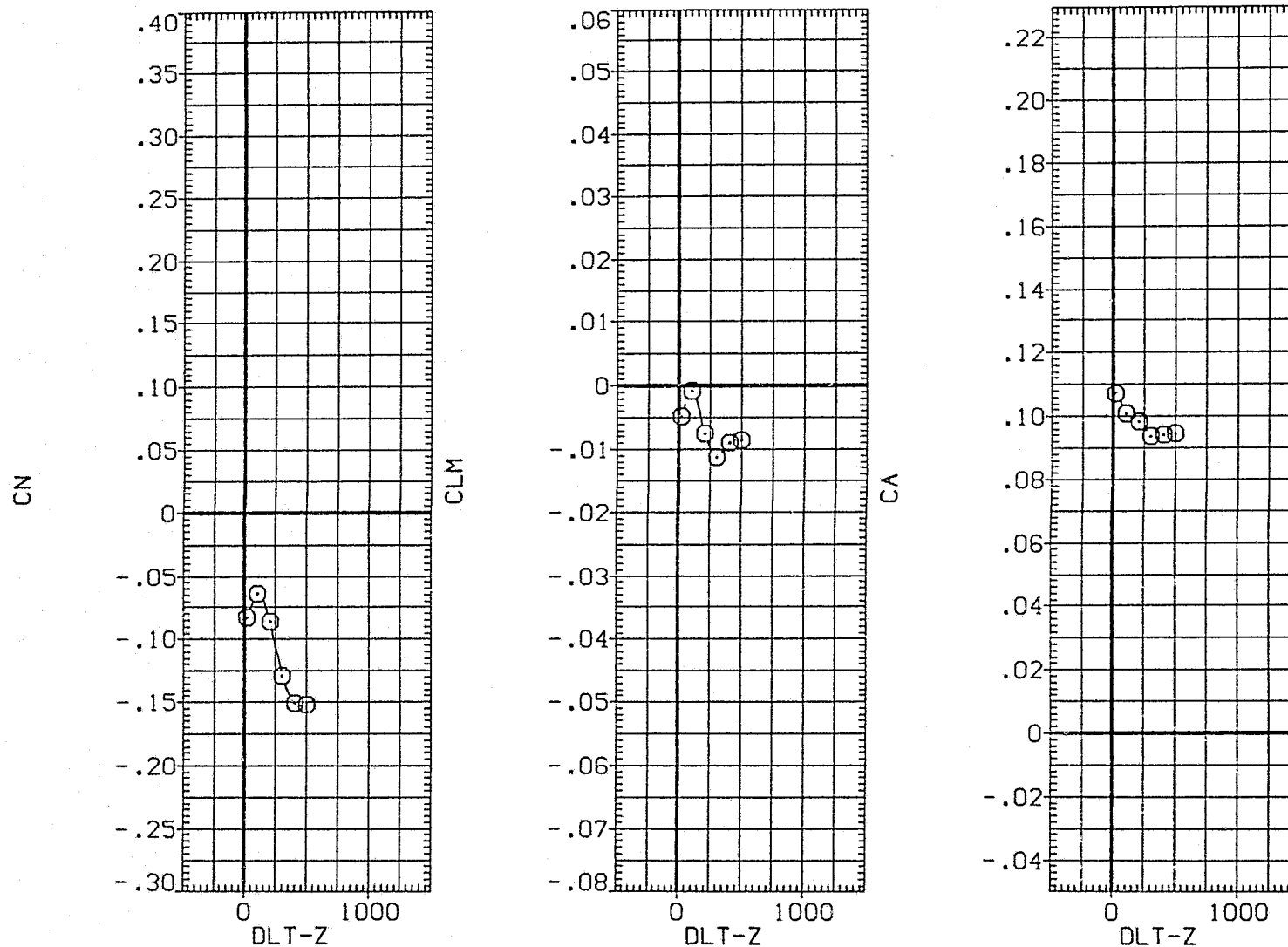


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR158)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
O	.431		.000	ALPHA -5.000
		BETA	.000	DLTALF .000
		DLTBTA	.000	MACH 7.980
		ATLRON	.000	ELEVON -20.000
		GRID	20.000	PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. ZC
SCALE	.0100	

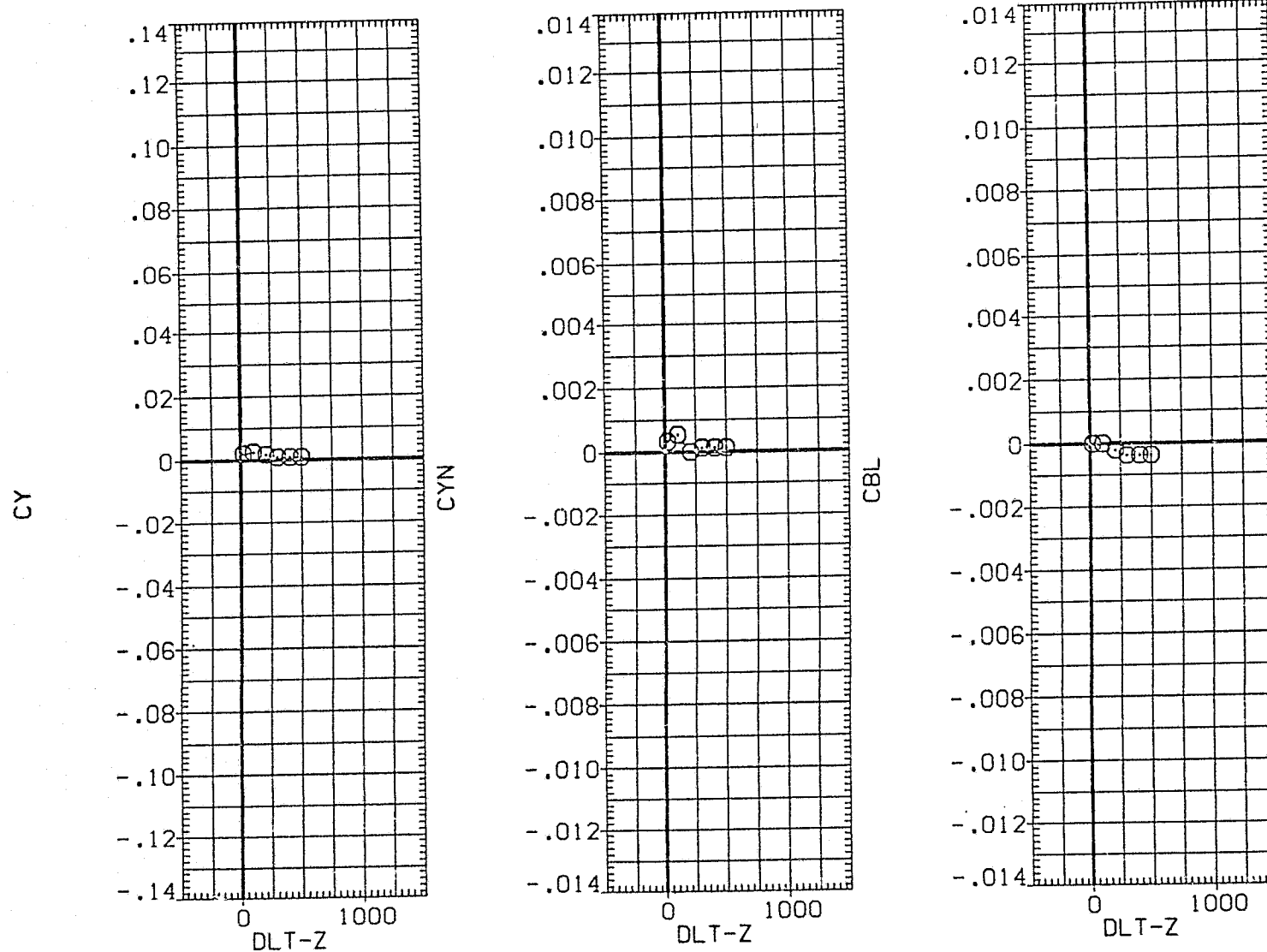


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR159)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
O	.407	.000	BETA	-5.000
		.000	DLTBT	-10.000
		.000	MACH	7.980
		.000	ELEVON	-20.000
		20.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

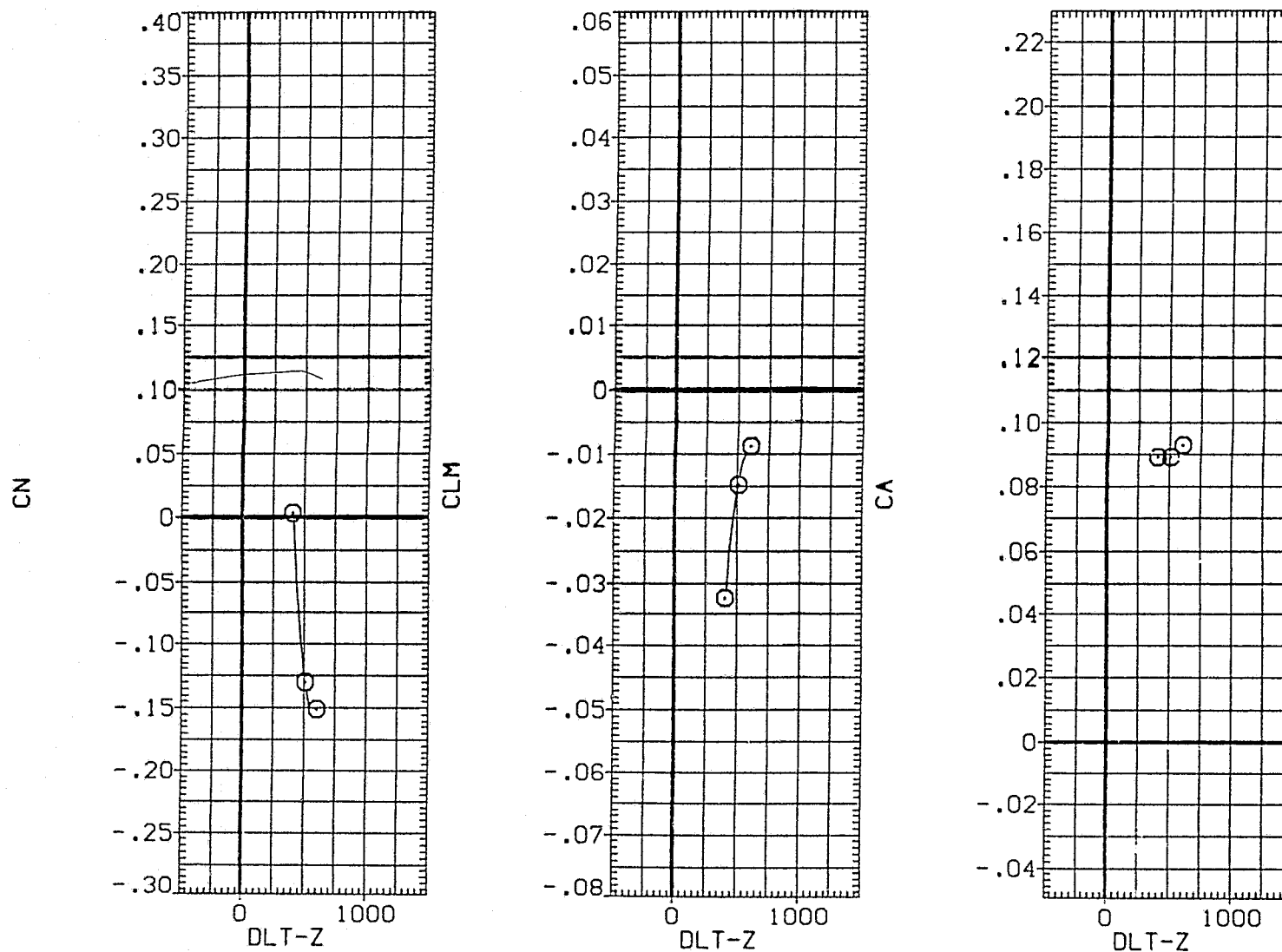


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR159)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.407	.000	DLTALF	-5.000
		.000	MACH	-10.000
		.000	ELEVON	7.980
		.000	P8	-20.000
		20.000		300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

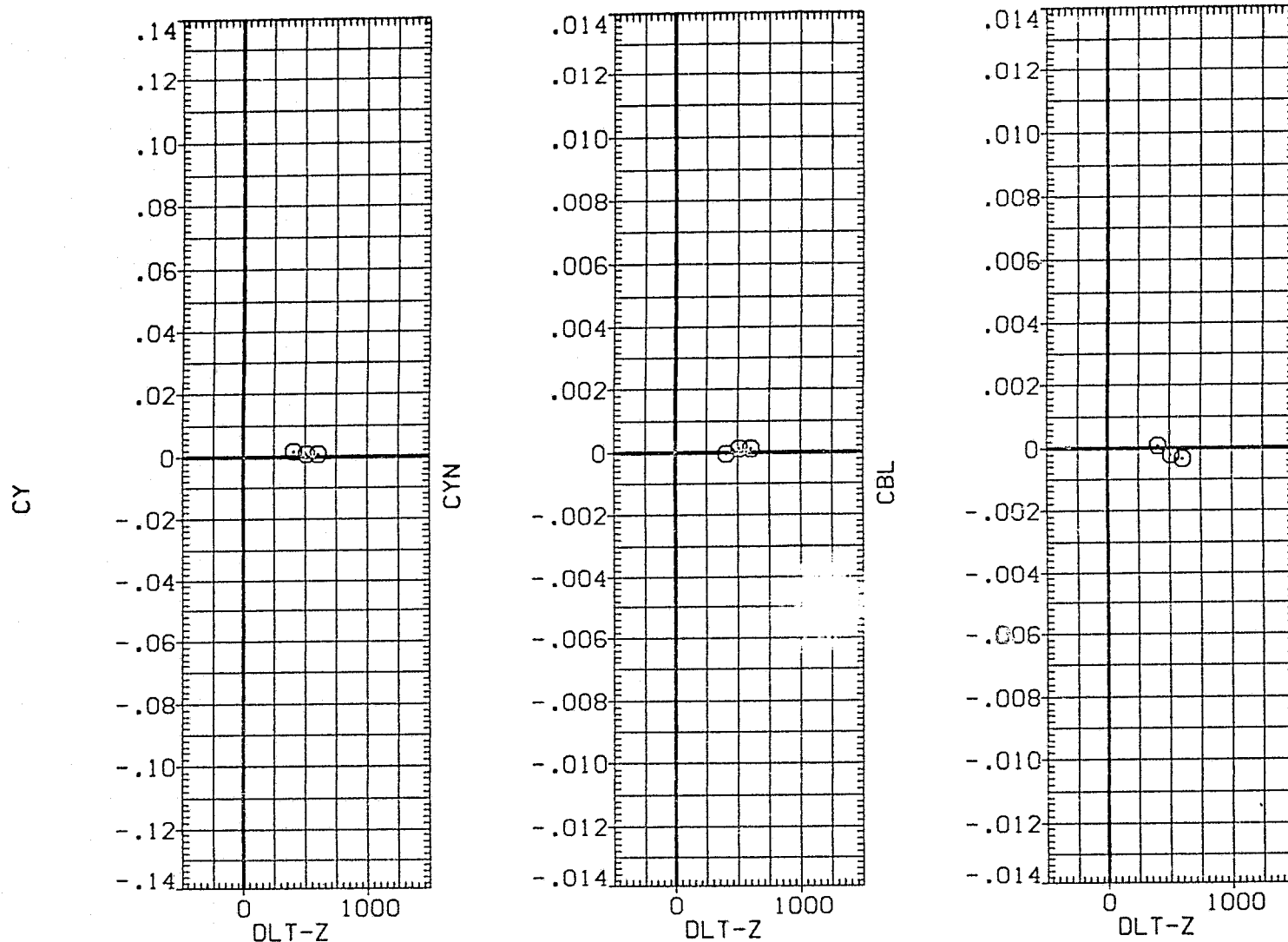


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR160)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.338	DLT-Y .000 ALPHA -5.000
		BETA .000 DLTALF -20.000
		DLTBTA .000 MACH 7.980
		AILRON .000 ELEVON -20.000
		GRID 20.000 PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

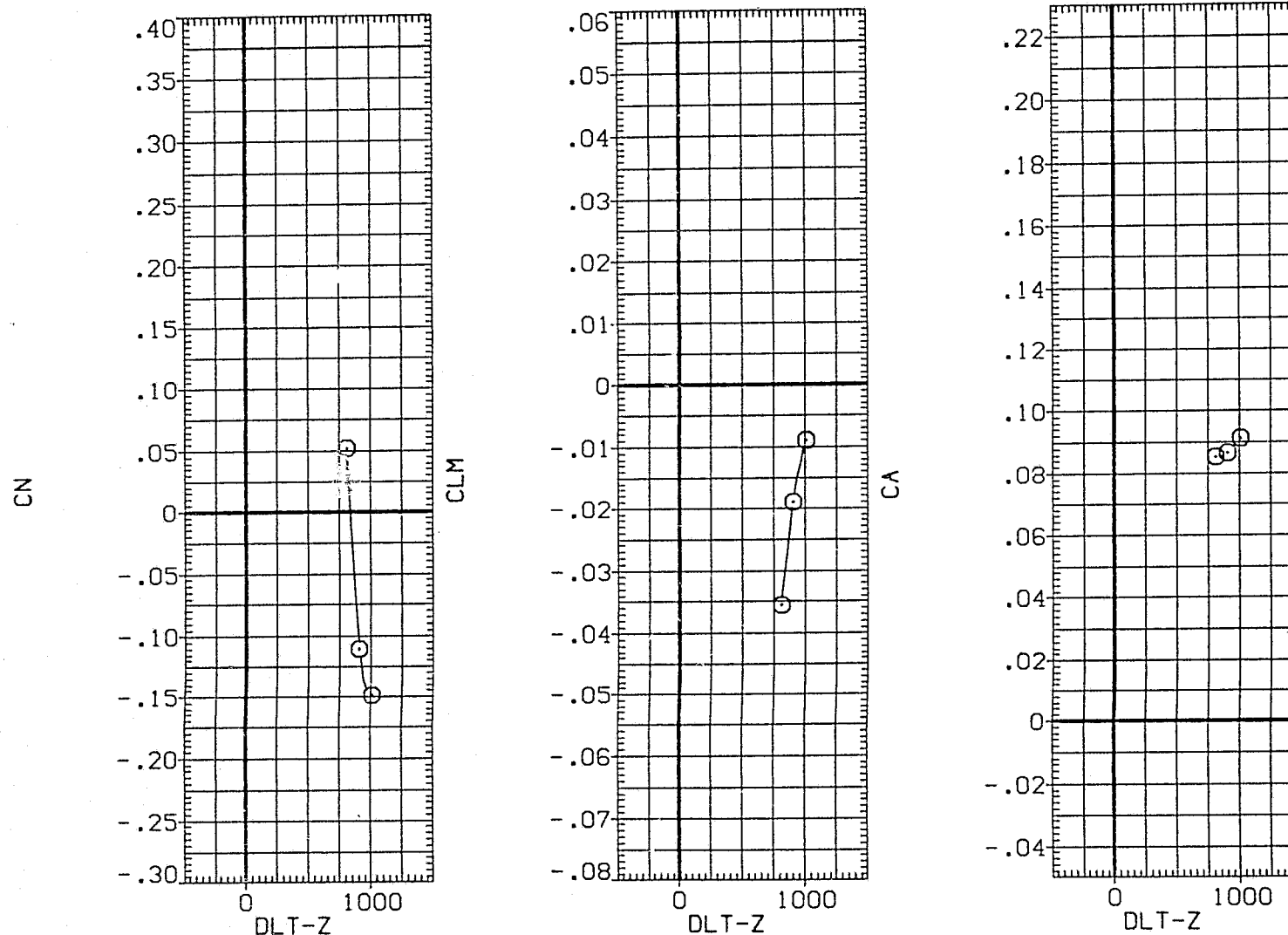


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR160)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.338	.000	ALPHA	-5.000
		.000	DLTALF	-20.000
		.000	MACH	7.980
		.000	ELEVON	-20.000
		20.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. XO
ZMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

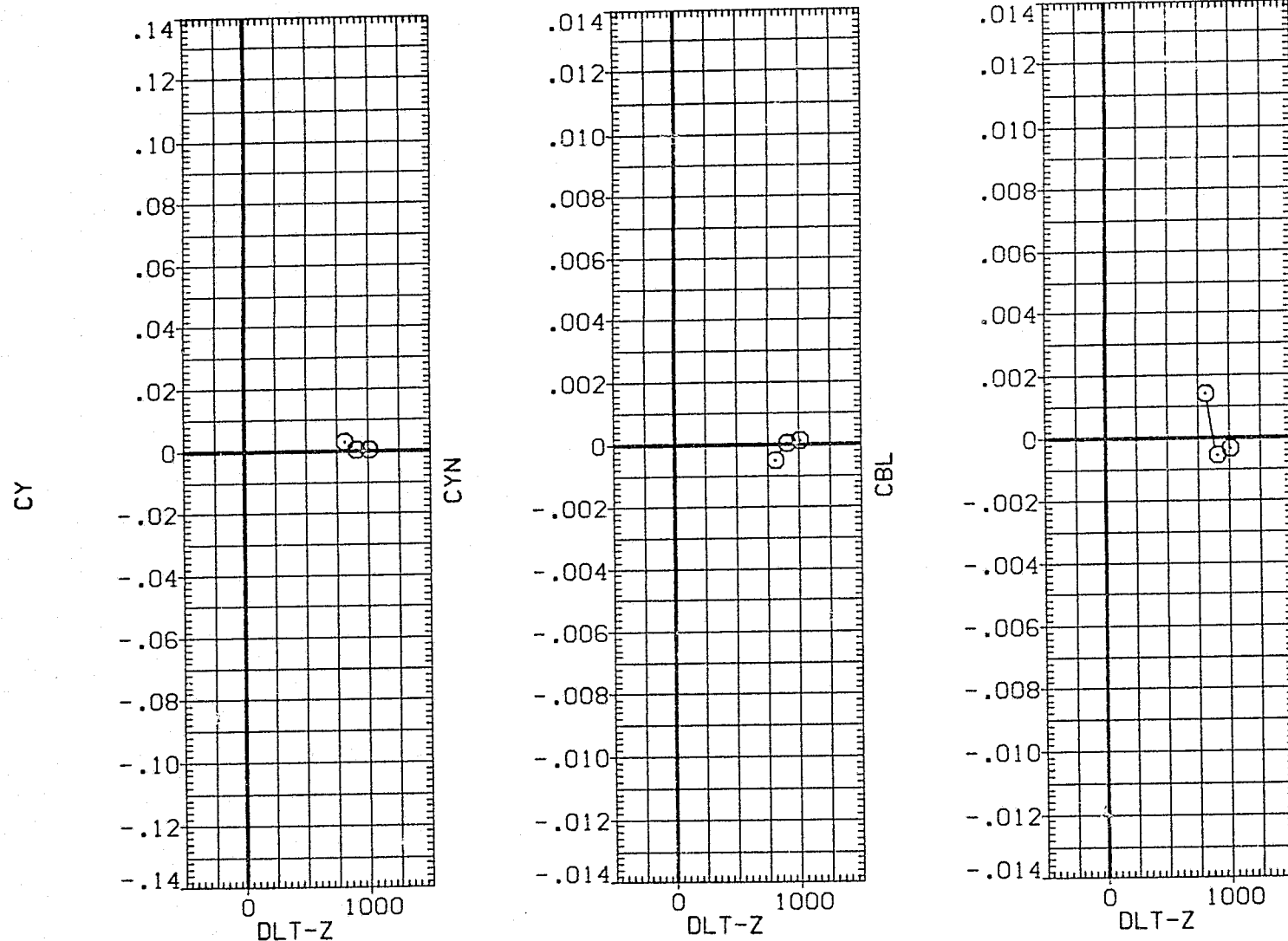


FIGURE 10 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR161)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.574	BETA	.000	.000	
		DLTBTA	.000	DLTALF	.000
		AILRON	.000	MACH	7.980
		GRID	21.000	ELEVON	-40.000
				PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

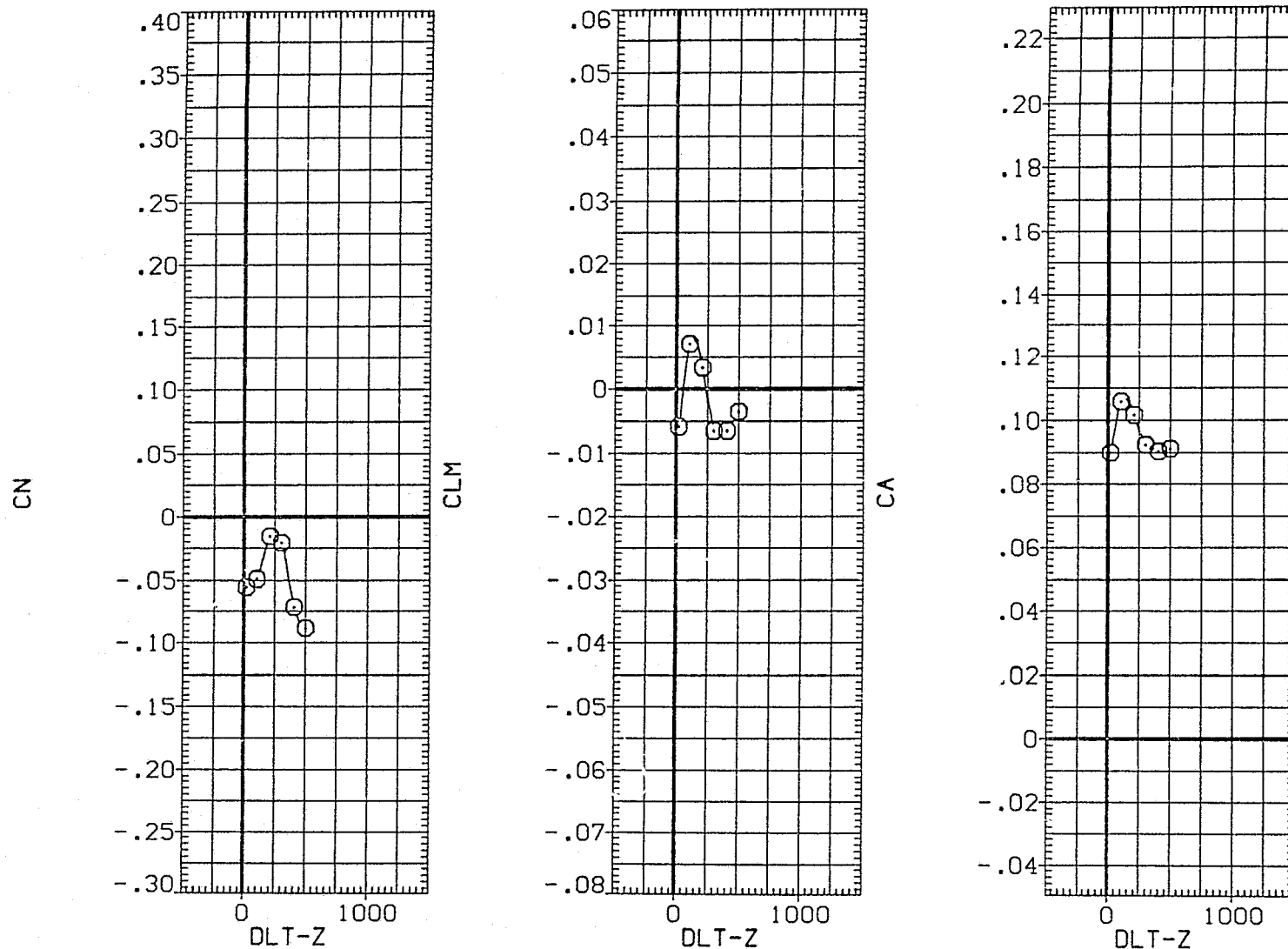


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR161)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.574	BETA	.000	ALPHA .000
		DLTBT	.000	DLTALF .000
		AILRON	.000	MACH 7.980
		GRID	21.000	ELEVON -40.000
				P0 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

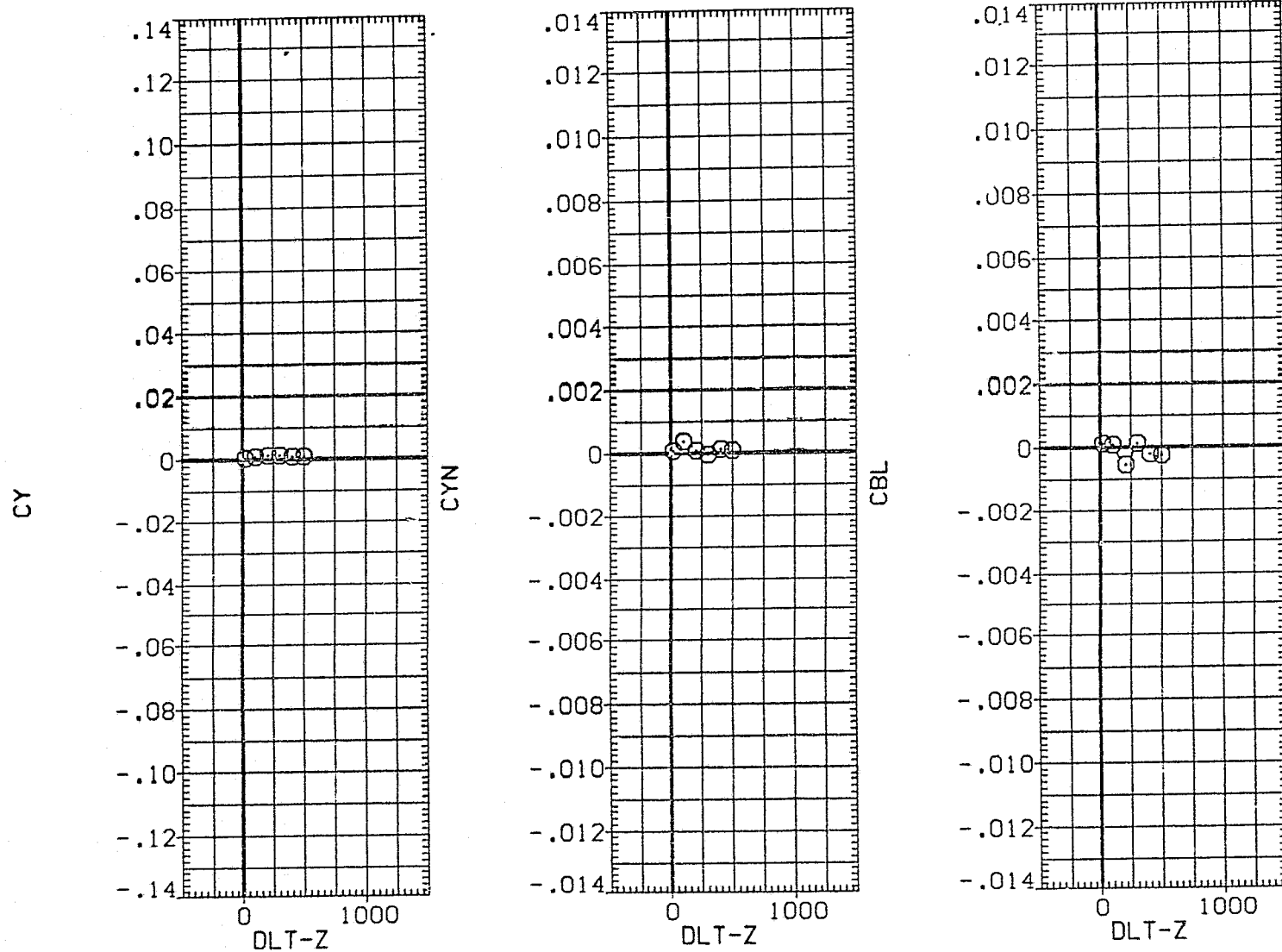


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR162)

SYMBOL
O

DLT-X
.537

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES

DLT-Y	.000	ALPHA	.000
BETA	.000	DLTALF	-10.000
DLTBTA	.000	MACH	7.980
AILRON	.000	ELEVON	-40.000
GRID	21.000	PO	300.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

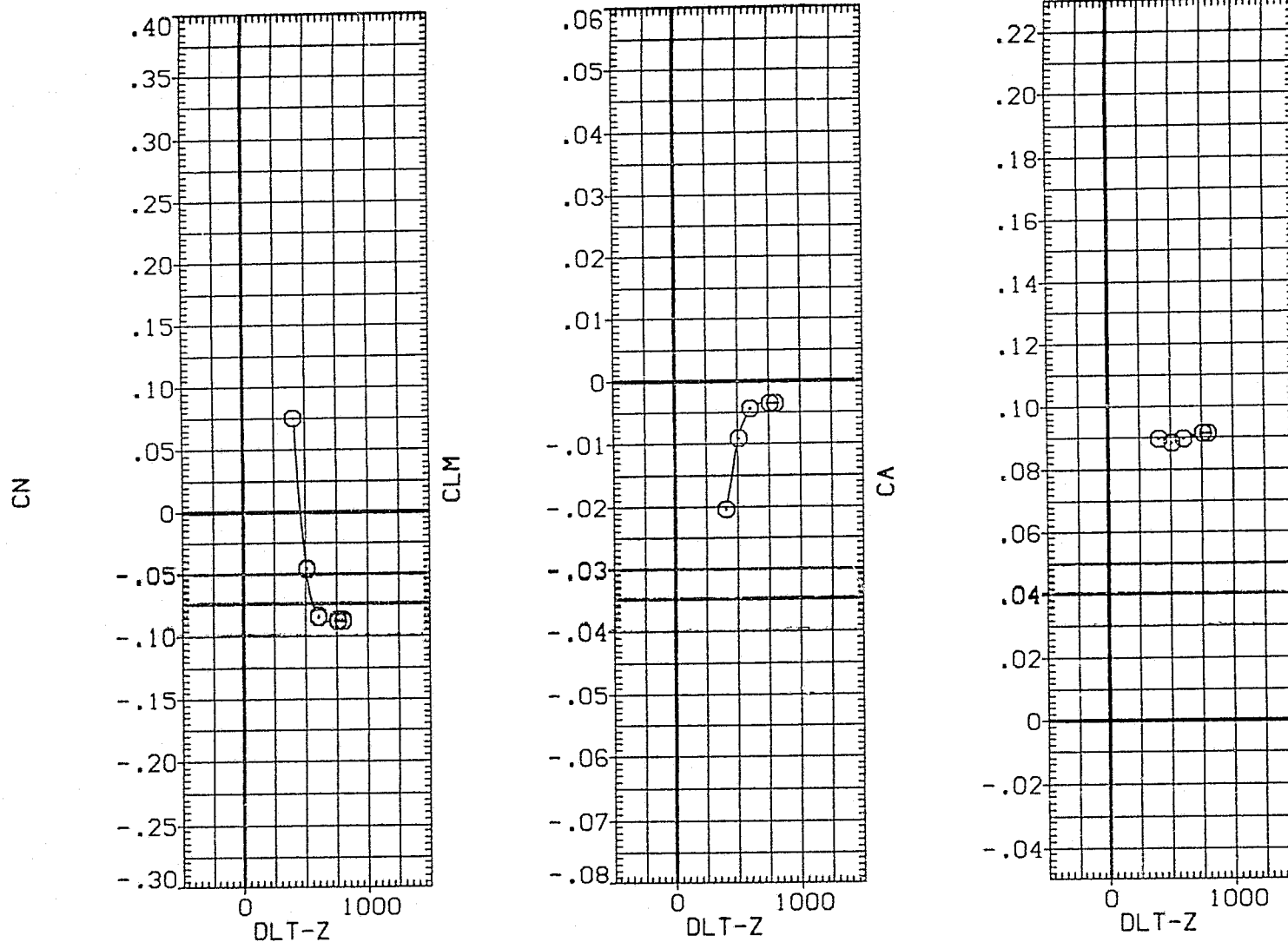


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR162)

SYMBOL
O

DLT-X
.537

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
.000
.000
.000
.000
21.000

ALPHA
DLTALF
MACH
ELEVON
PO

REFERENCE INFORMATION
SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

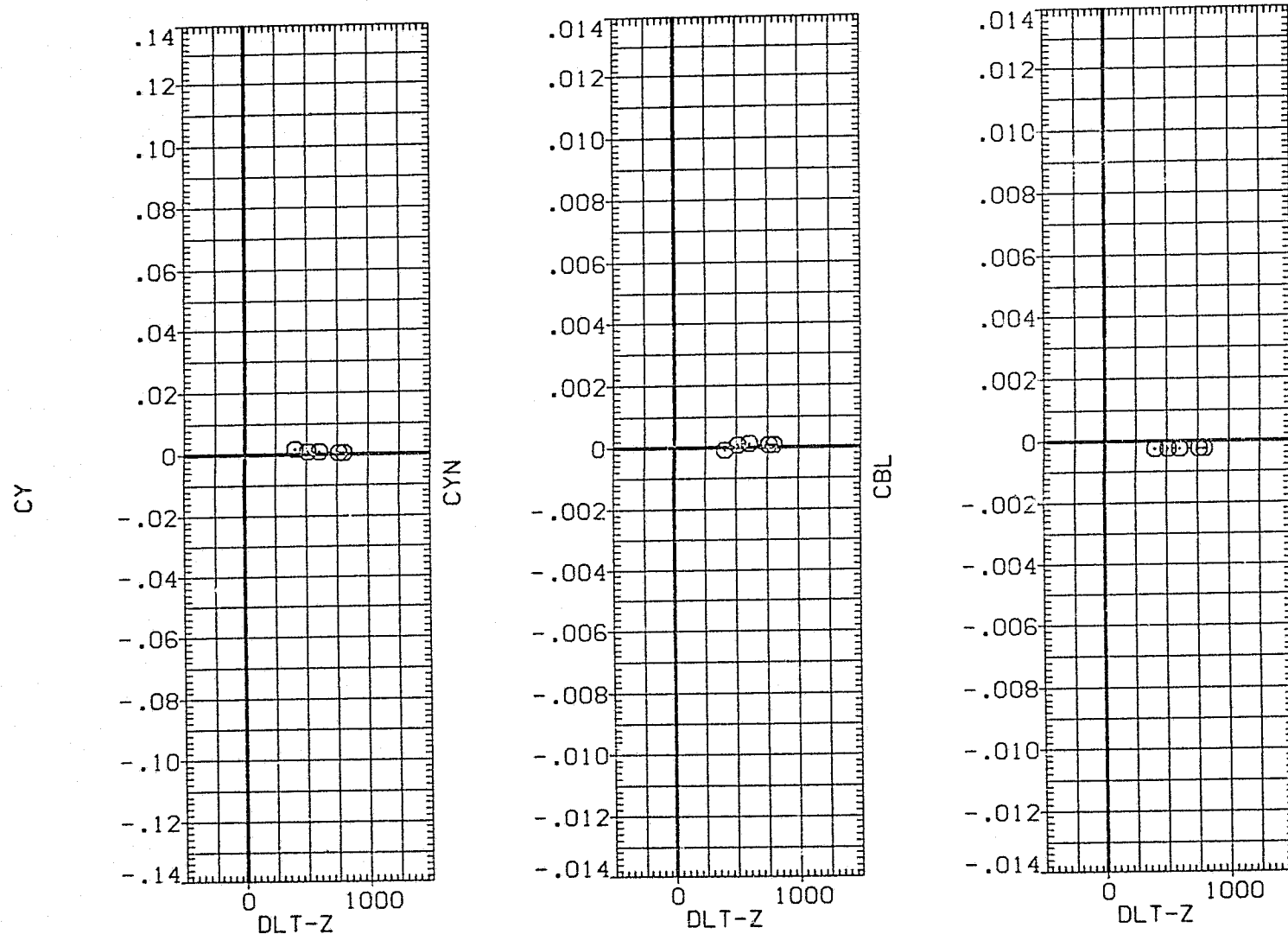


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR163)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.419	DLT-Y	.000	ALPHA	.000
		BETA	.000	DLTALF	-20.000
		DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	-40.000
		GRID	21.000	PC	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

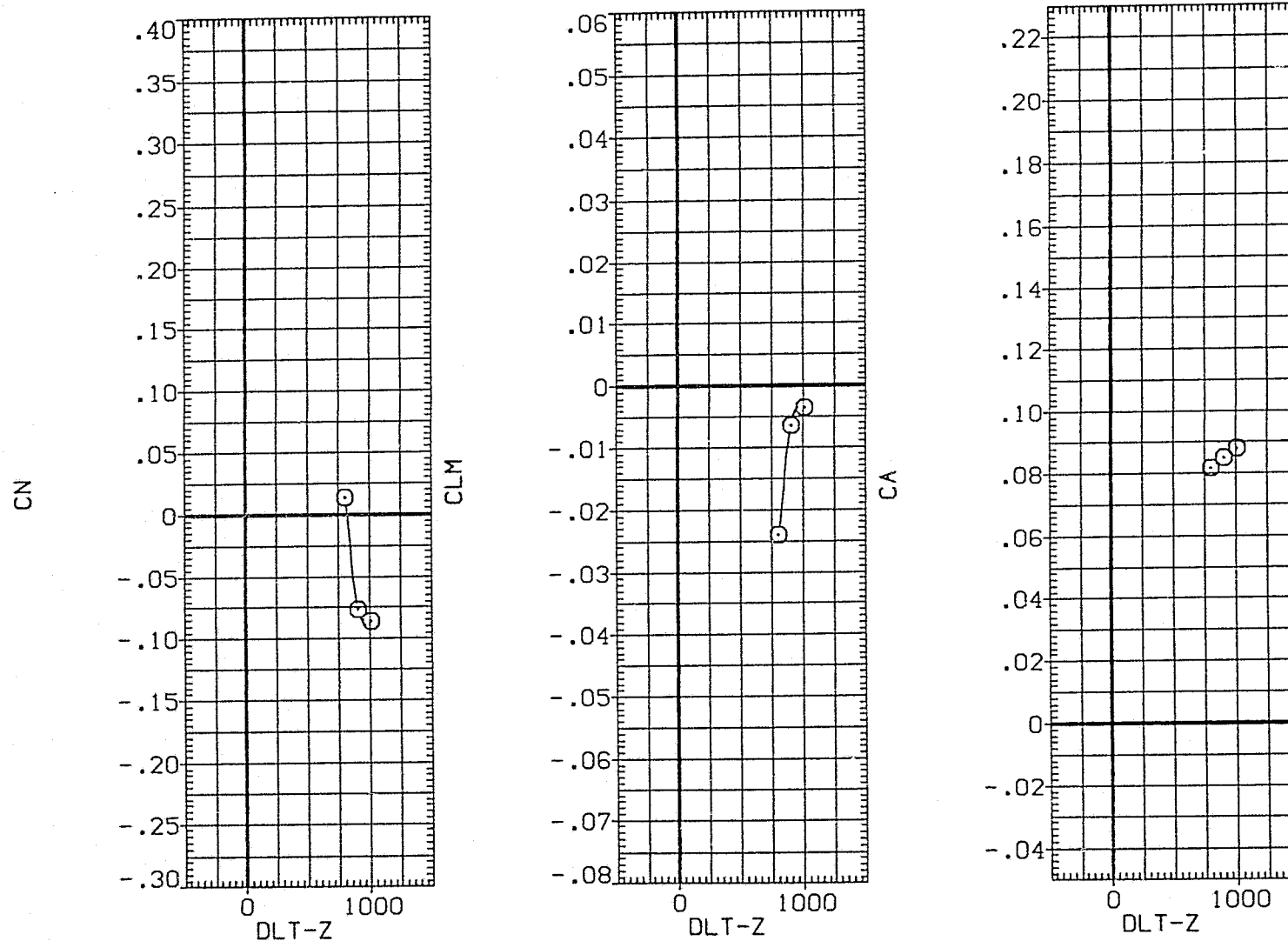


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR163)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.419	.000	ALPHA .000
		BETA .000	DLTALF -20.000
		DLTBTA .000	MACH 7.980
		AILRON .000	ELEVON -40.000
		GRID 21.000	PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

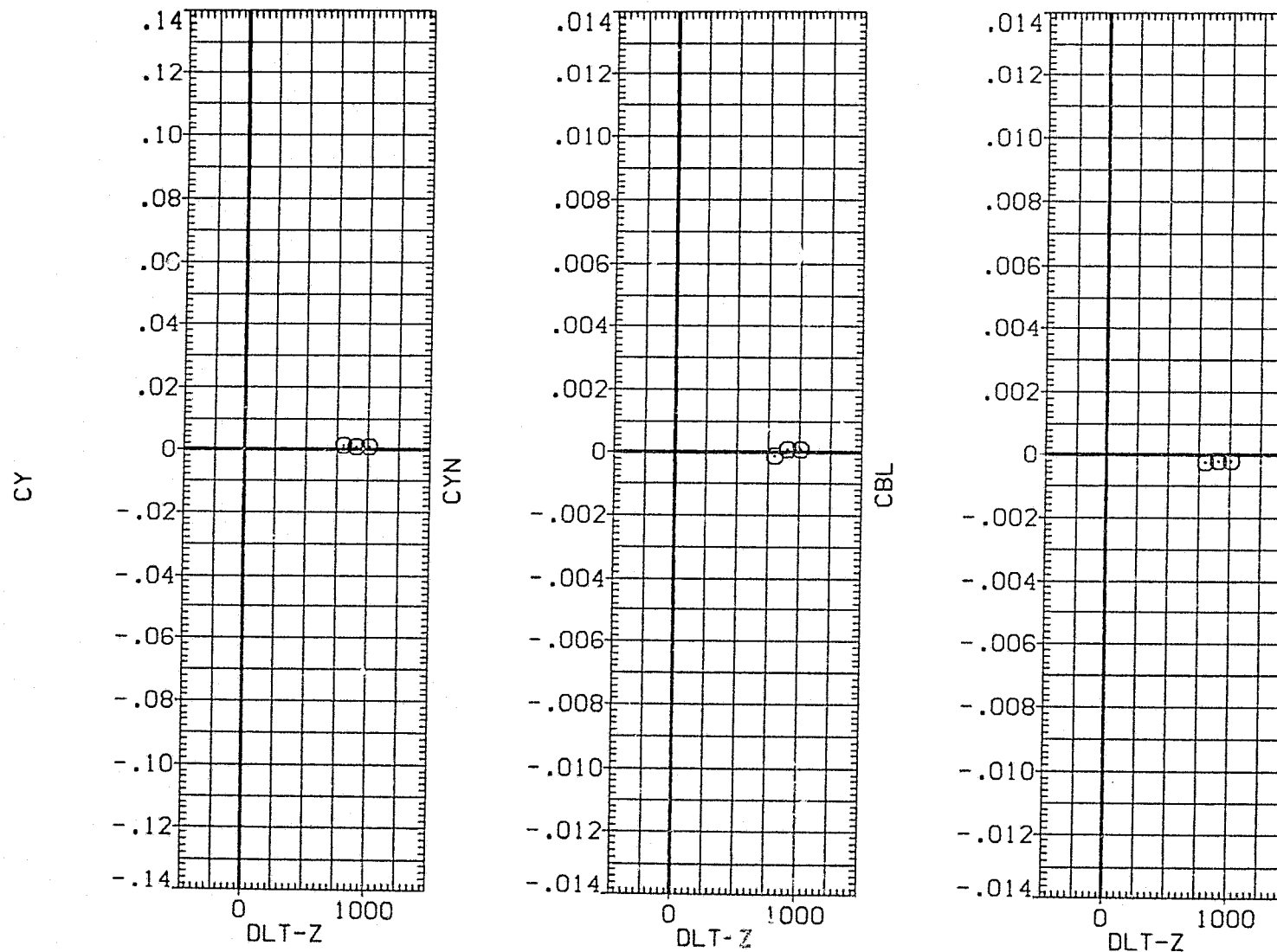


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR164)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON	PO
O	.478	.000	.000	.000	.000	20.000		-5.000	.000	7.980	-40.000	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

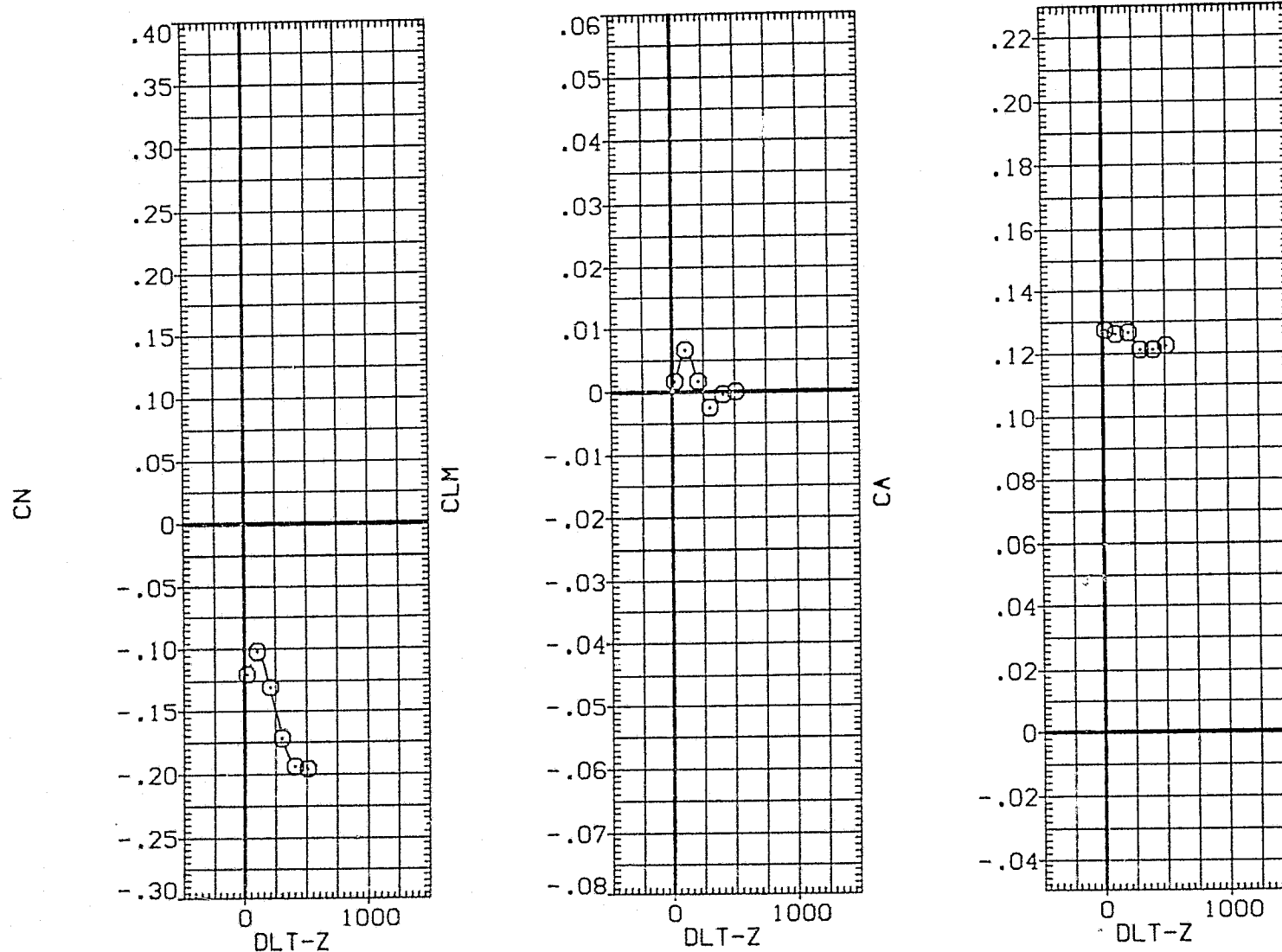


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR164)

SYMBOL
O

DLT-X
.478

DLT-Y
BETA
DLTSTA
AILRON
GRID

PARAMETRIC VALUES
.000
.000
.000
.000
20.000
ALPHA
DLTALF
MACH
ELEVON
PO

-5.000
.000
7.980
-40.000
300.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X3
YMRP	.0000	IN. Y3
ZMRP	375.0000	IN. Z3
SCALE	.0100	

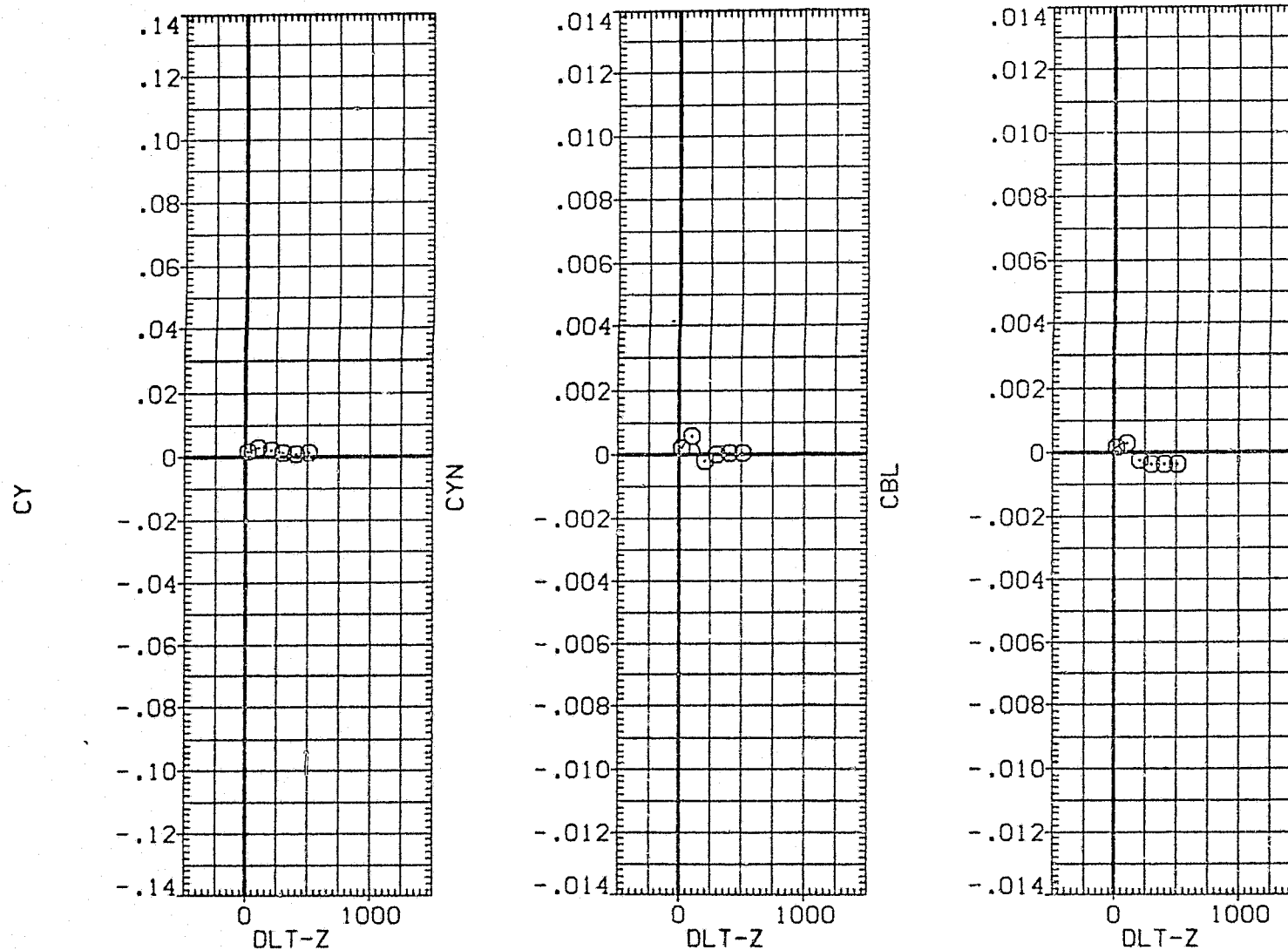
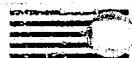


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -40)



AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR165)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
O	.471	.000	BETA	-5.000	
		.000	DLTBTA	-10.000	
		.000	AILRON	7.980	
		.000	ELEVON	-40.000	
		20.000	GRID	300.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

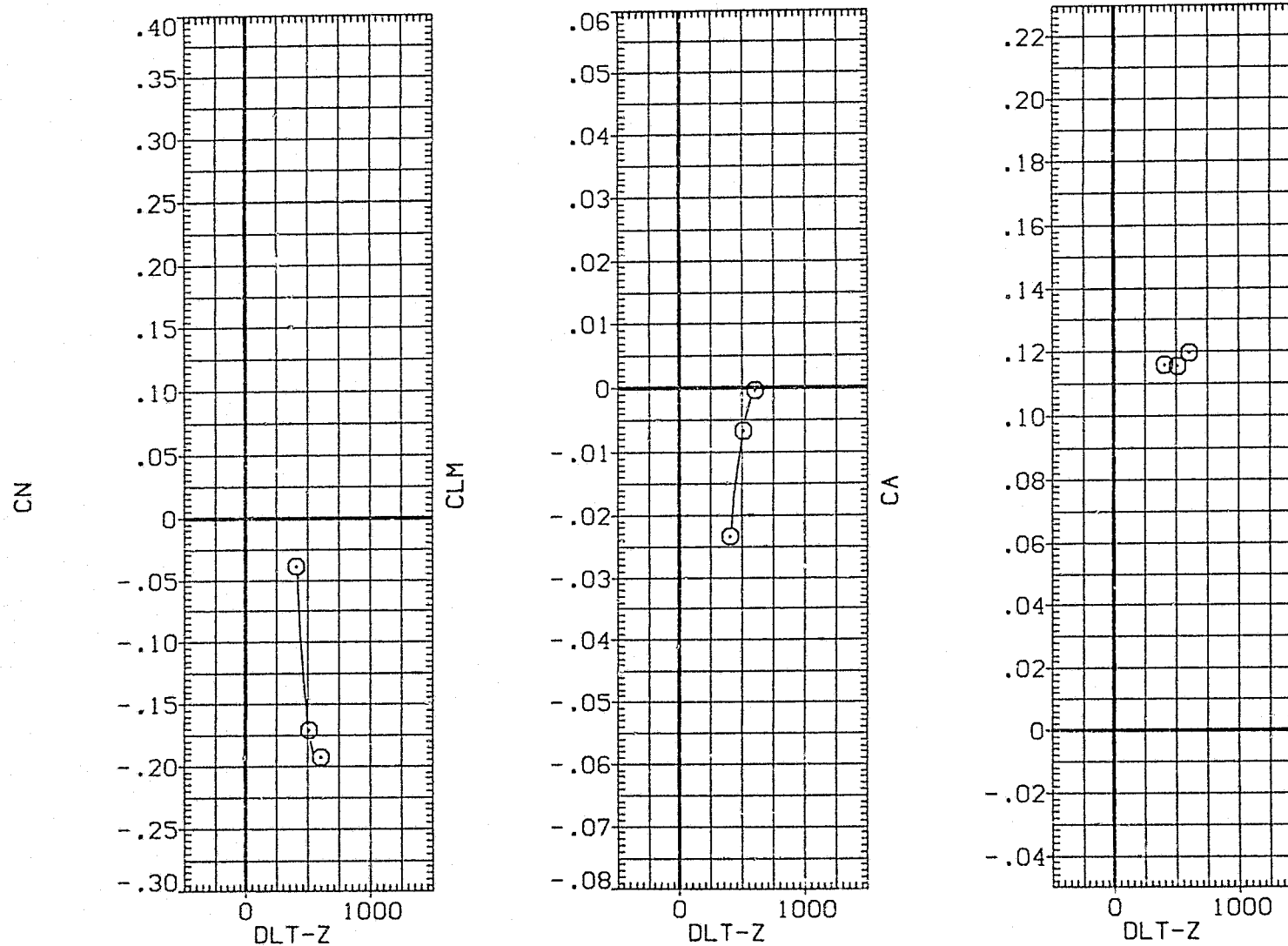


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR165)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.471	.000	ALPHA	-5.000
		.000	DLTALF	-10.000
		.000	MACH	7.980
		.000	ELEVON	-40.000
		20.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

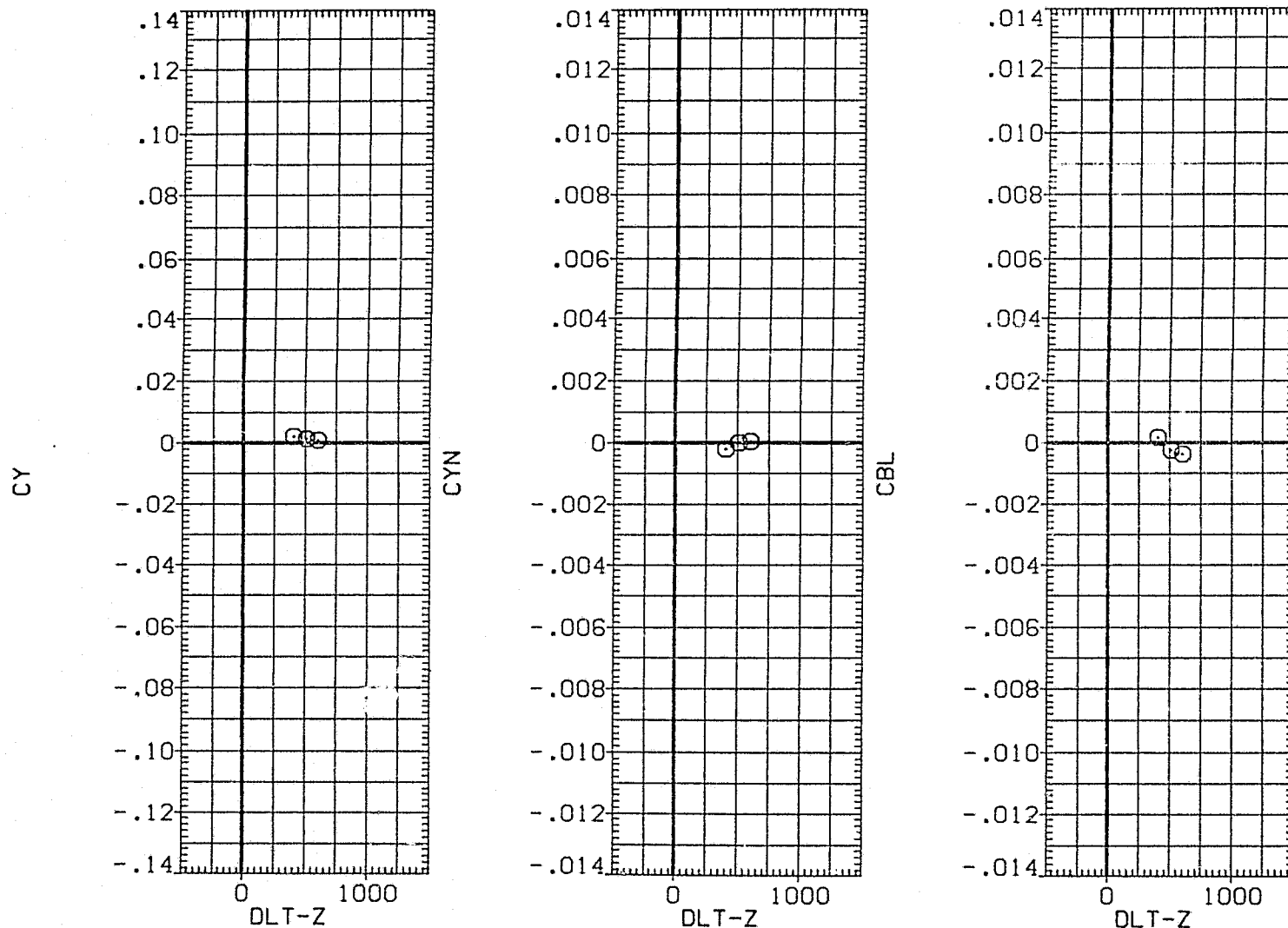


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR166)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
O	.352	BETA	.000	-5.000
		DLTBT	.000	DLTALF
		AILRON	.000	MACH
		GRID	20.000	ELEVON
				P0

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

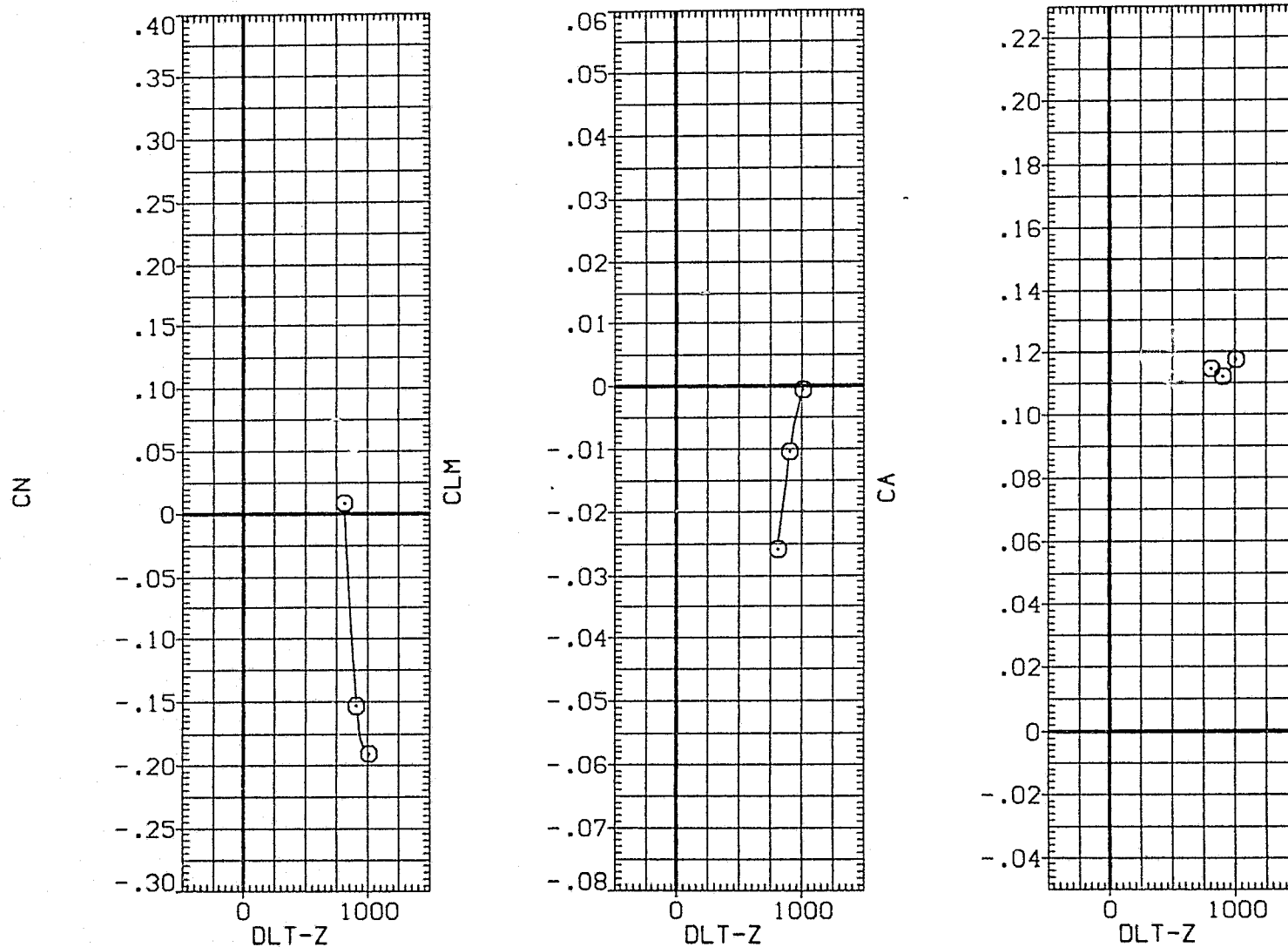


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR166)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.352	.000	ALPHA	-5.000
		.000	DLTALF	-20.000
		.000	MACH	7.980
		.000	ELEVON	-40.000
		20.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

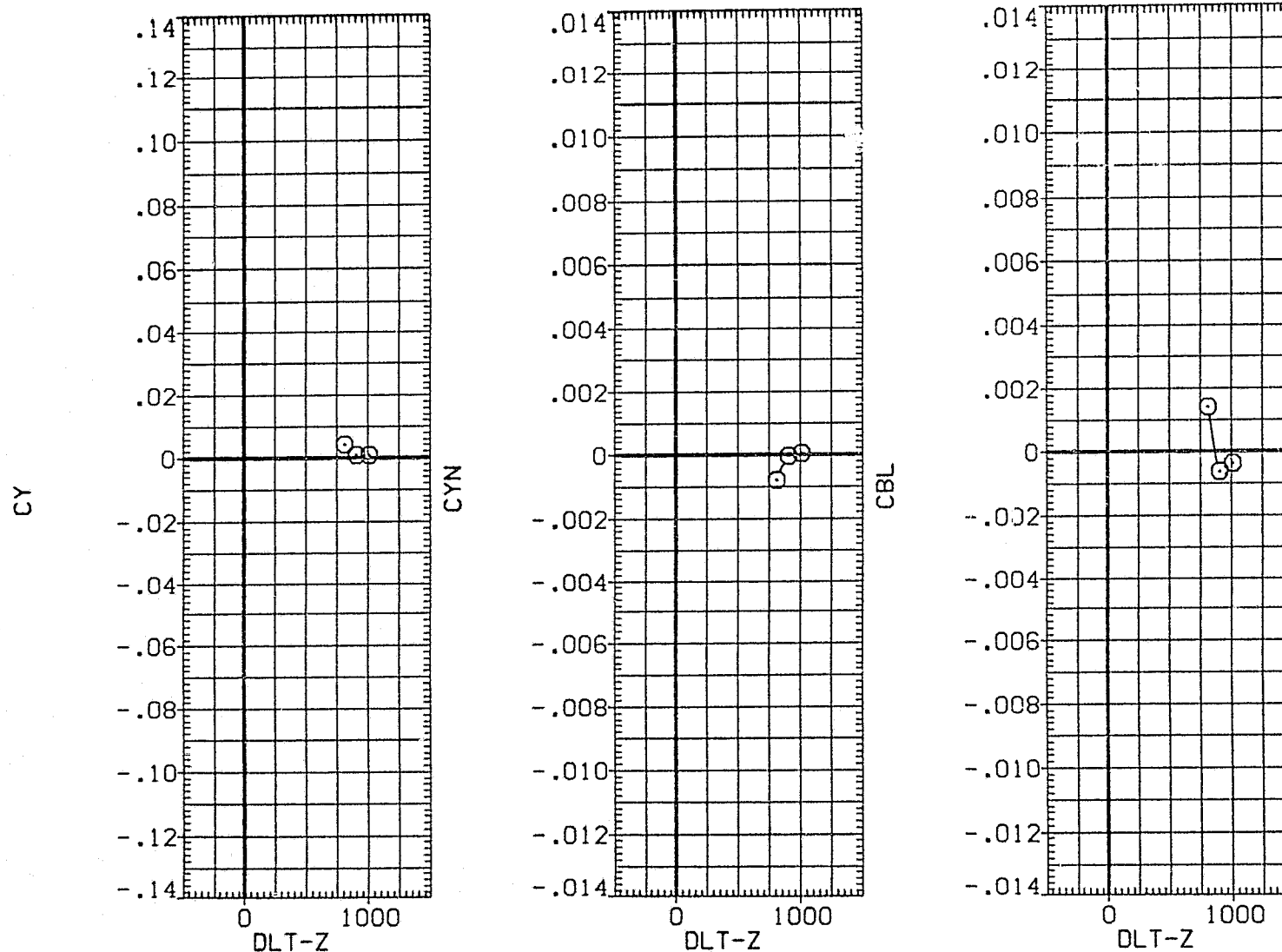


FIGURE 11 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,ELEVON= -40)



AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR149)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.574	DLT-Y .000 ALPHA .000
		BETA .000 DLTALF .000
		DLTSTA .000 MACH 7.980
		AILRON 15.000 ELEVON .000
		GRID 21.000 PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCAL	.0100	

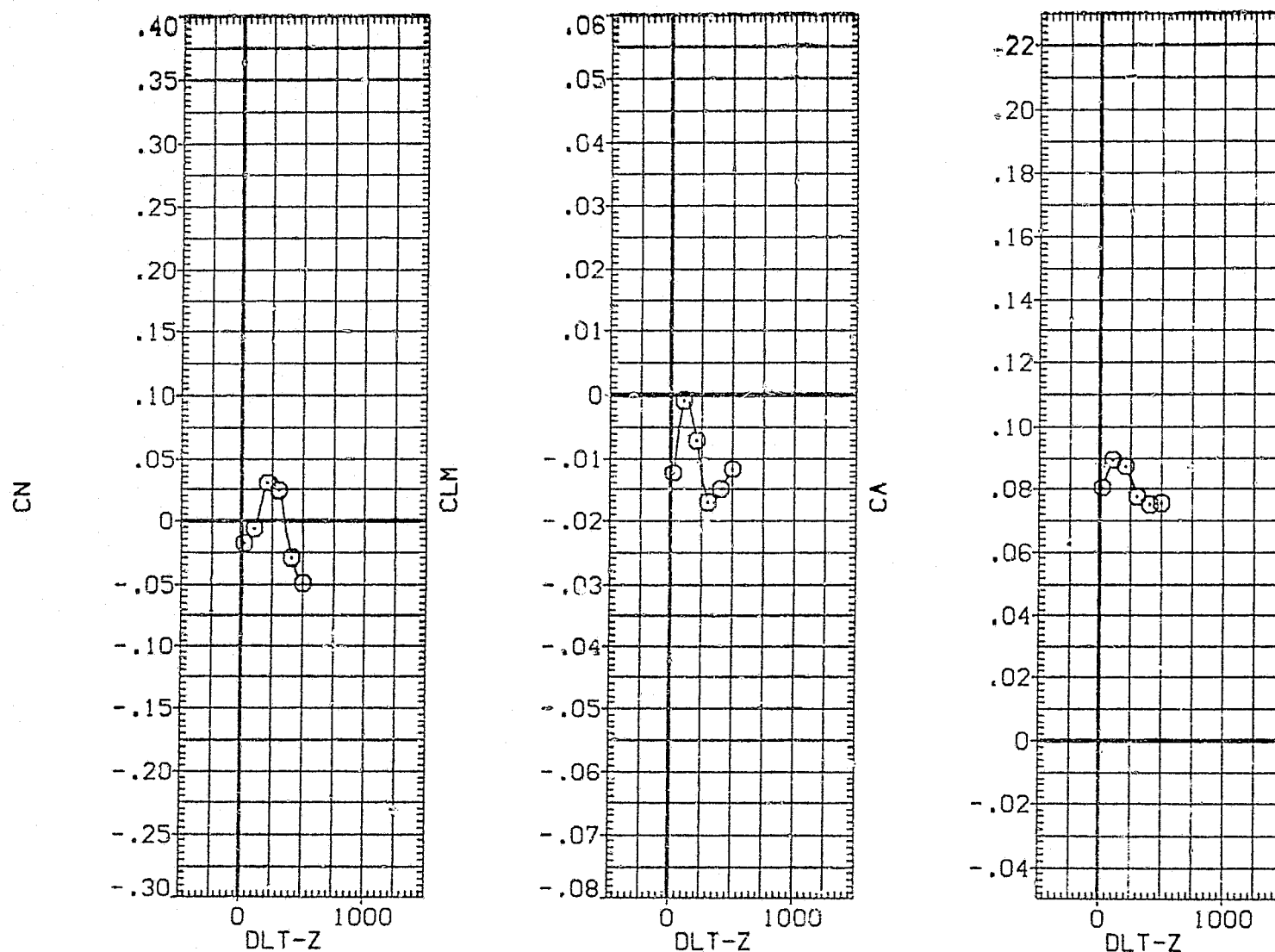


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR149)

SYMBOL
O

DLT-X
.574

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
.000
.000
.000
15.000
21.000

ALPHA
DLTALF
MACH
ELEVON
PO

.000
.000
7.980
.000
300.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. XC
YMRP .0000 IN. YD
ZMRP 375.0000 IN. ZD
SCALE .0100

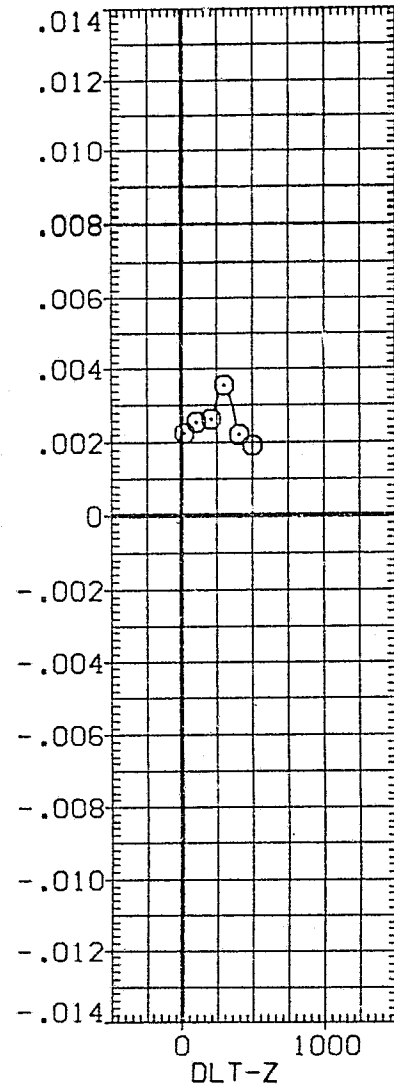
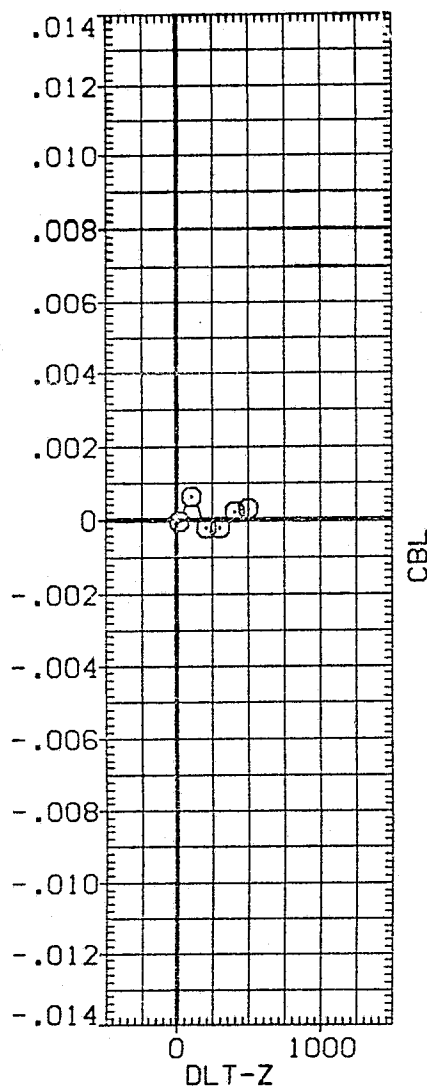
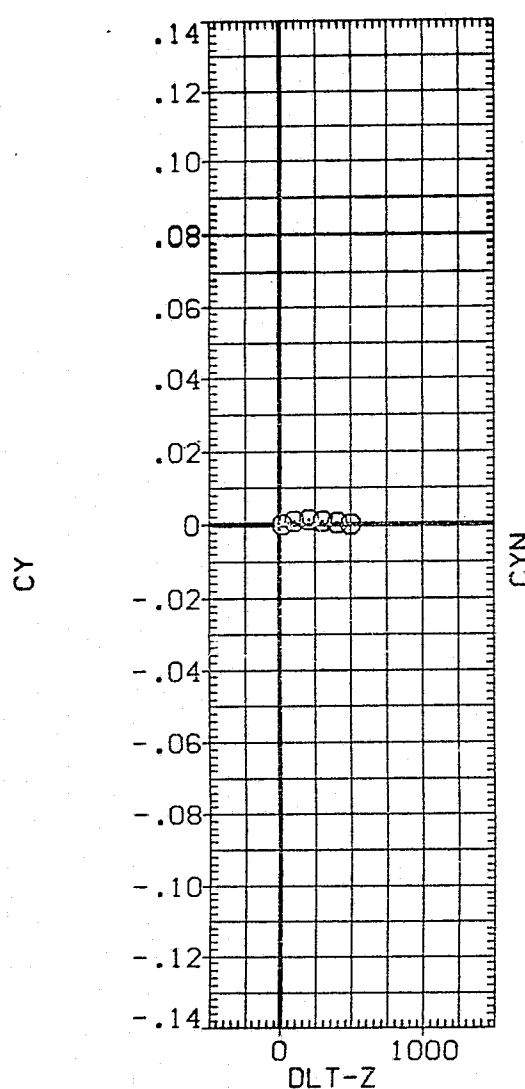


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILRON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR150)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.578	.000	DLTALF	-10.000
		.000	MACH	7.980
		.000	ELEVON	.000
		15.000	P0	300.000
		21.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

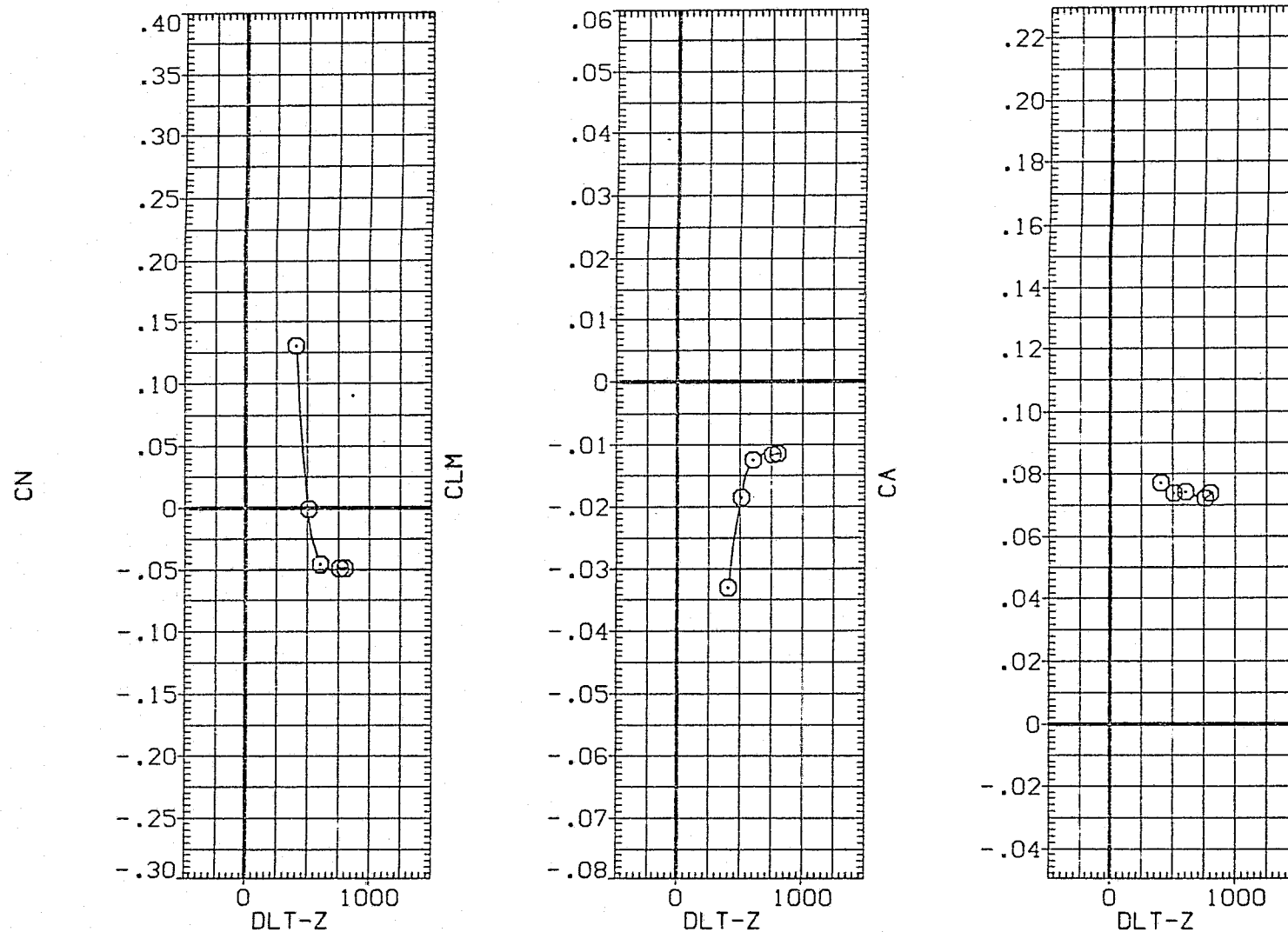


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR150)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.578	.000	ALPHA	.000
		BETA	DLTALF	-10.000
		DLTBTA	MACH	7.980
		AILERON	ELEVON	.000
		GRID	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

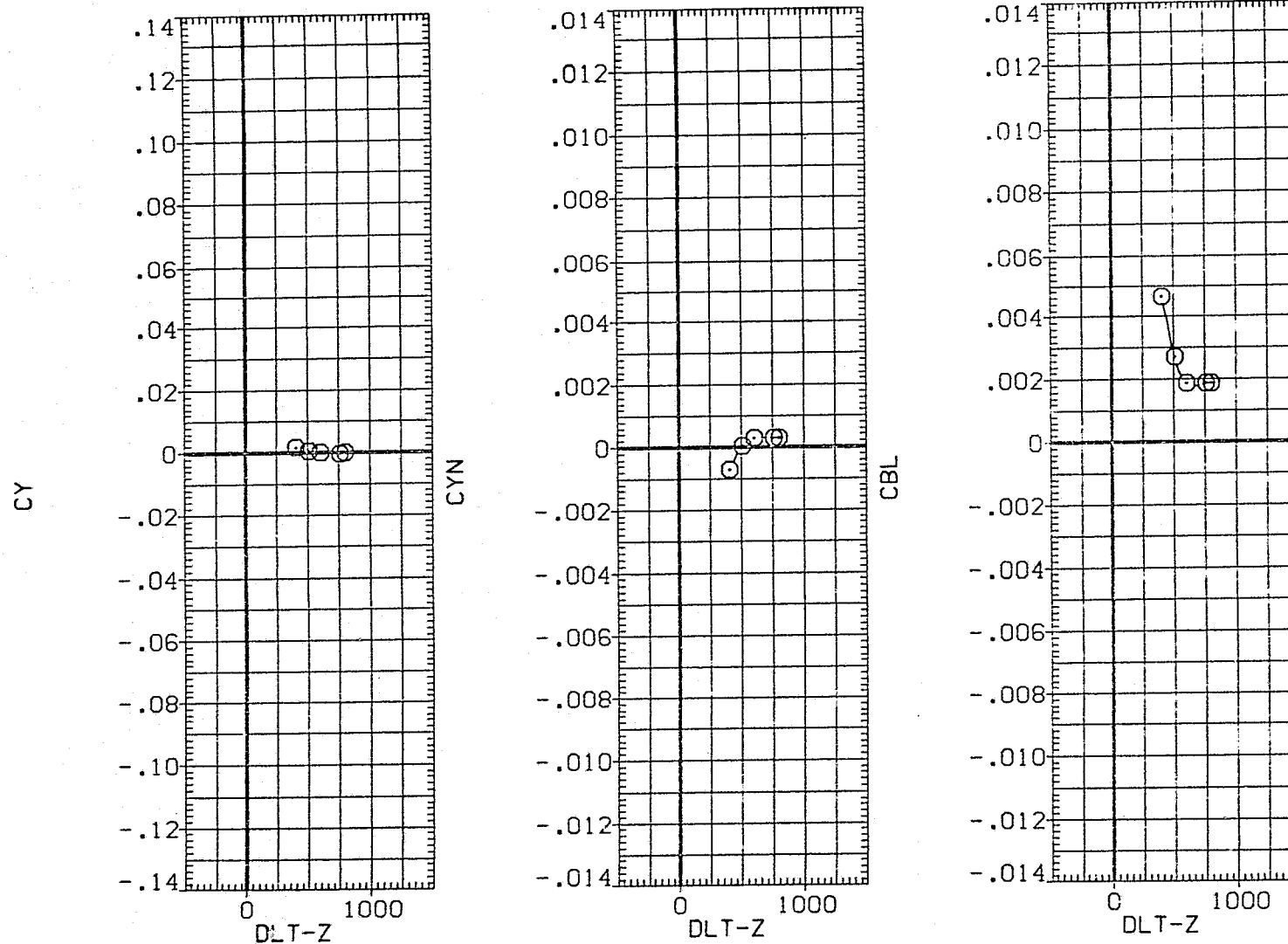


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR151)

SYMBOL
○

DLT-X
.413

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES

ALPHA .000
DLTALF -20.000
MACH 7.980
ELEVON .000
PG 300.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. XO
YMRP .0000 IN. YO
ZMRP 375.0000 IN. ZO
SCALE .0100

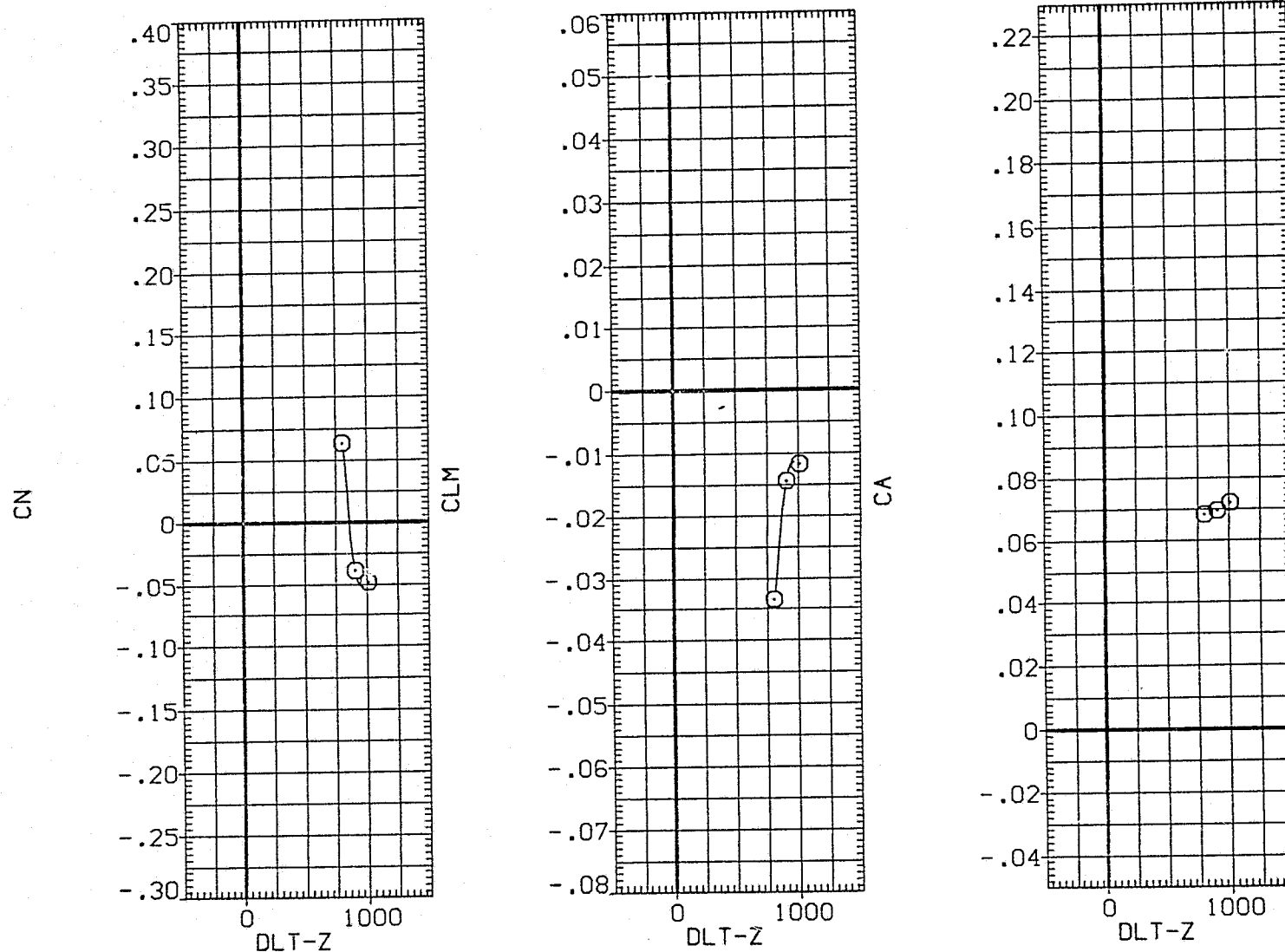


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR151)

SYMBOL
○

DLT-X
.413

PARAMETRIC VALUES			
DLT-Y	.000	ALPHA	.000
BETA	.000	DLTALF	-20.000
DLTBTA	.000	MACH	7.980
AILRON	15.000	ELEVON	.000
GRID	21.000	PO	300.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

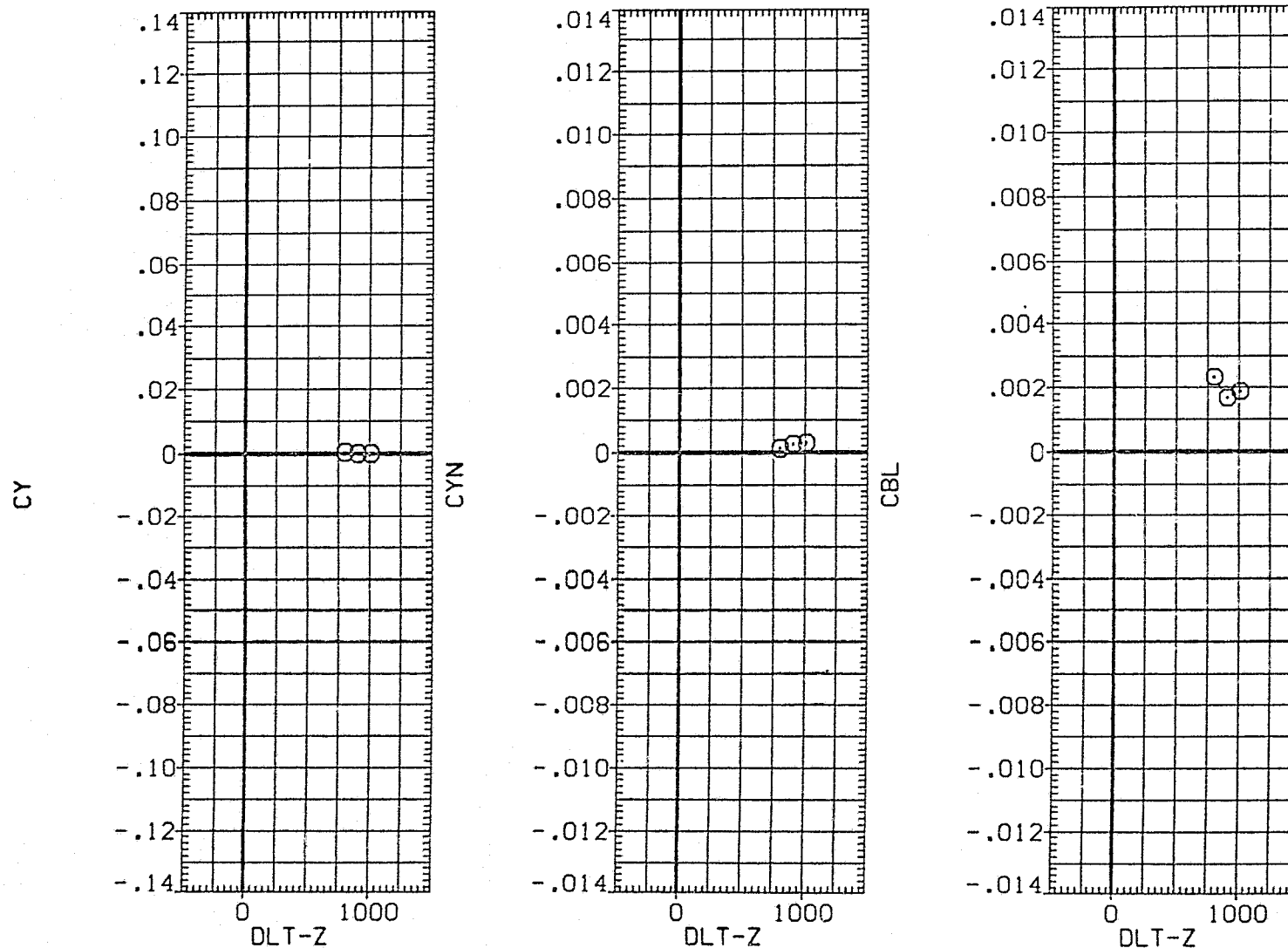


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR152)

SYMBOL		PARAMETRIC VALUES				
O	DLT-X	.437	DLT-Y	.000	ALPHA	-5.000
			BETA	.000	DLTALF	.000
			DLTBTA	.000	MACH	7.980
			AILRON	15.000	ELEVON	.000
			GRID	20.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

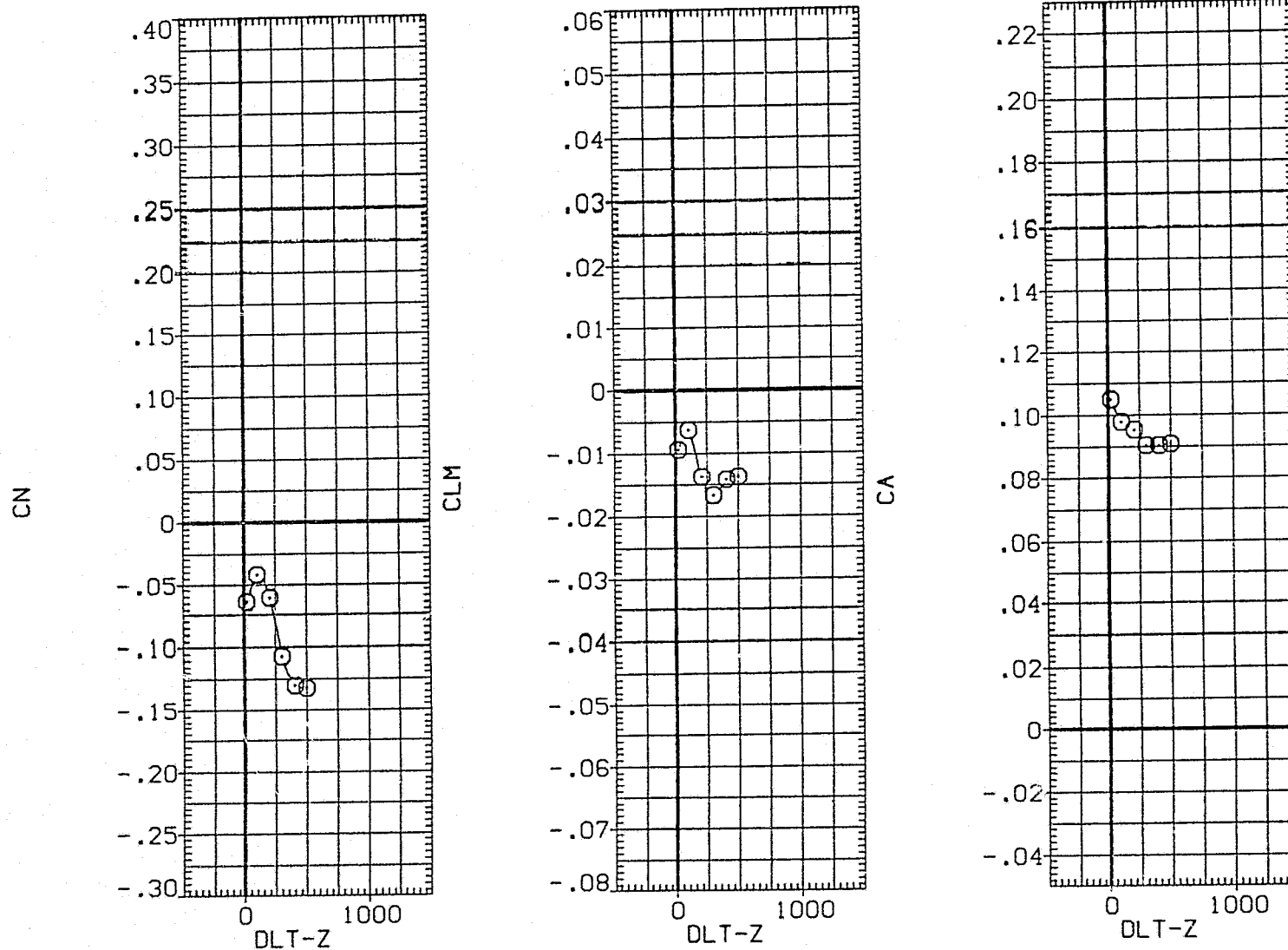


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILRON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR152)

SYMBOL
O

DLT-X
.437

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES

.000 ALPHA -5.000
.000 DLTALF .000
.000 MACH 7.980
15.000 ELEVON .000
20.000 PG 300.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
LREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

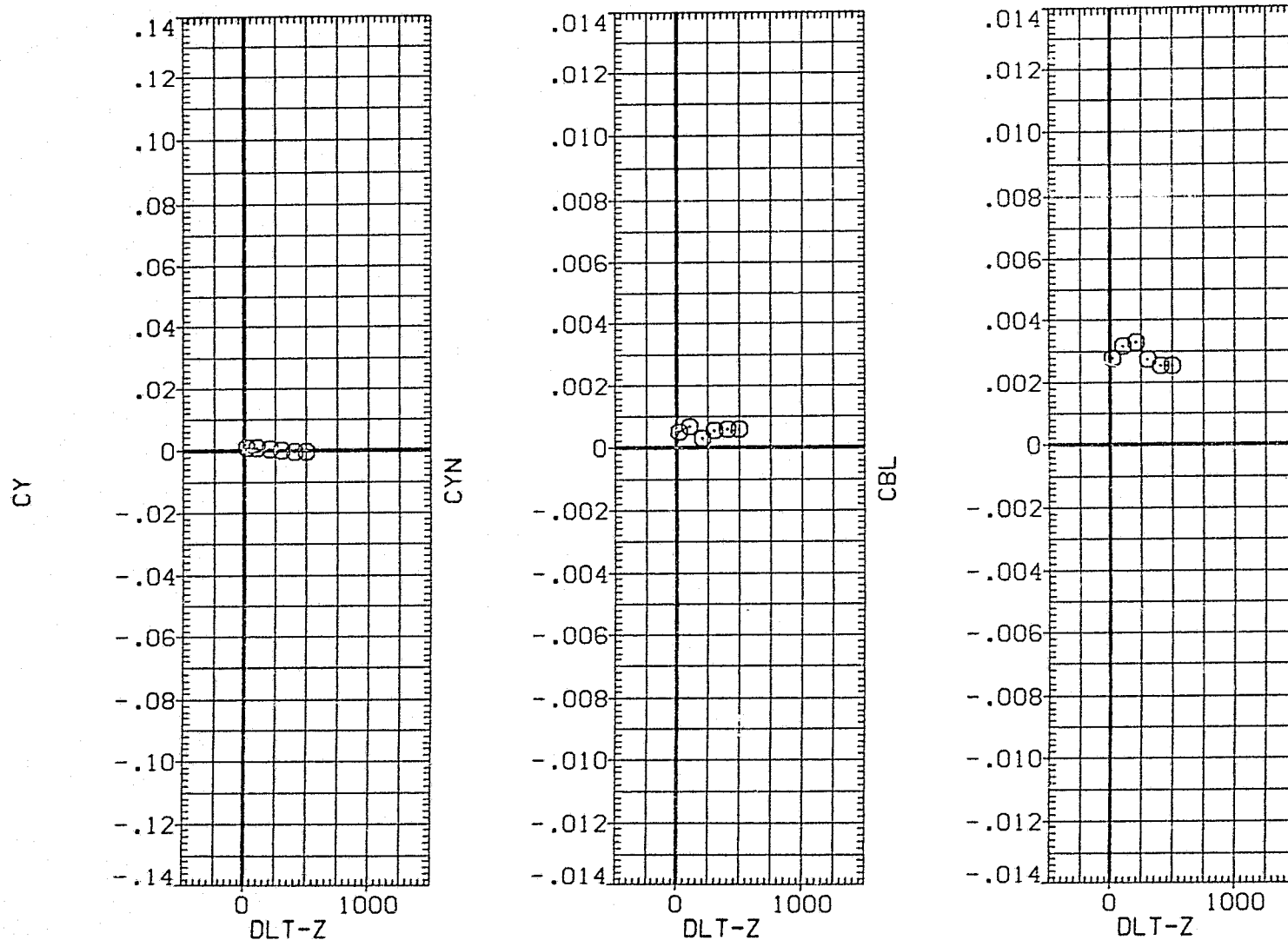


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR153)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBT	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON	P0
O	.398	.000	.000	.000	15.000	20.000		-5.000	-10.000	7.980	.000	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

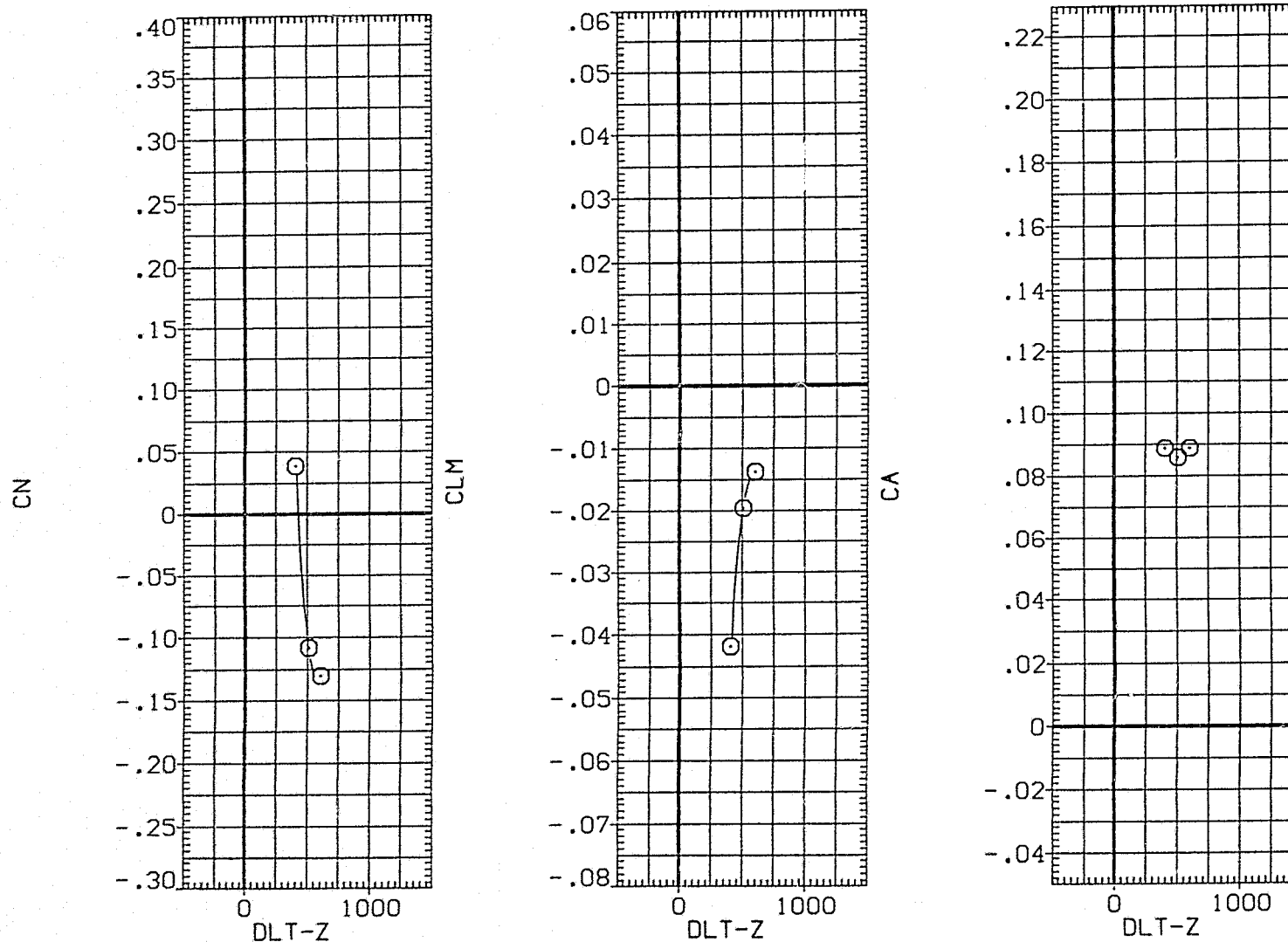


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILRON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR153)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.398	BETA	.000	ALPHA
		DLTBT	.000	DLTALF
		AILRON	15.000	MACH
		GRID	20.000	ELEVON
			P0	300.000

REFERENCE INFORMATION	
SREF	2690.0000
LREF	1290.3000
BREF	1290.3000
XMRP	1089.6000
YMRP	.0000
ZMRP	375.0000
SCALE	.0100
SQ.FT.	IN.
IN.	IN.
IN.	IN.
IN.	IN.
IN.	IN.
IN.	IN.

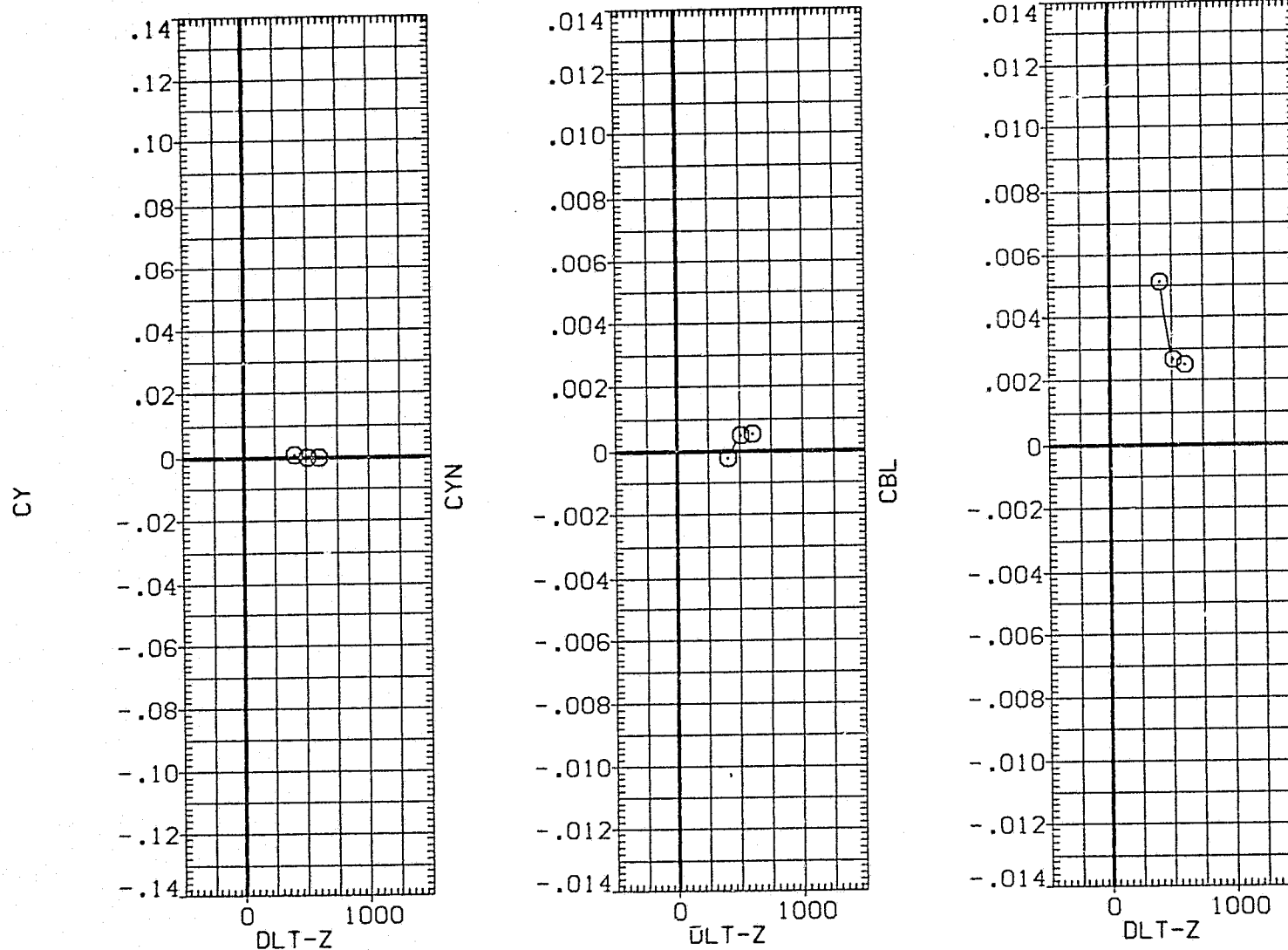


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR154)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	.000	ALPHA	-5.000
O	.371	BETA	.000	DLTALF	-20.000
		DLTBTA	.000	MACH	7.980
		AILRON	15.000	ELEVON	.000
		GRID	20.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

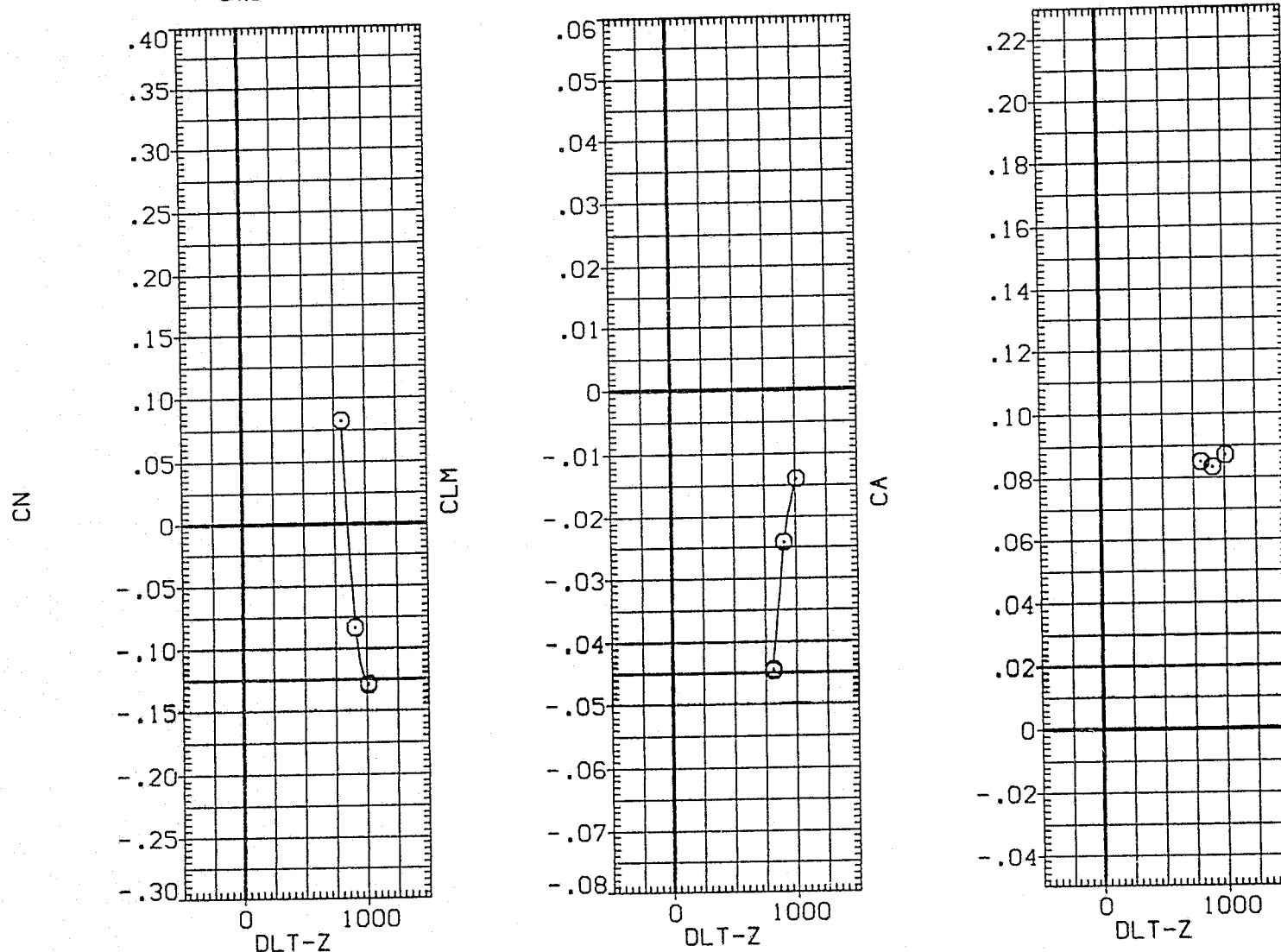


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR154)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.271	DLT-Y .000 ALPHA -5.000
		BETA .000 DLTALF -20.000
		DLTBTA .000 MACH 7.980
		AILERON 15.000 ELEVON .000
		GRID 20.000 PO 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

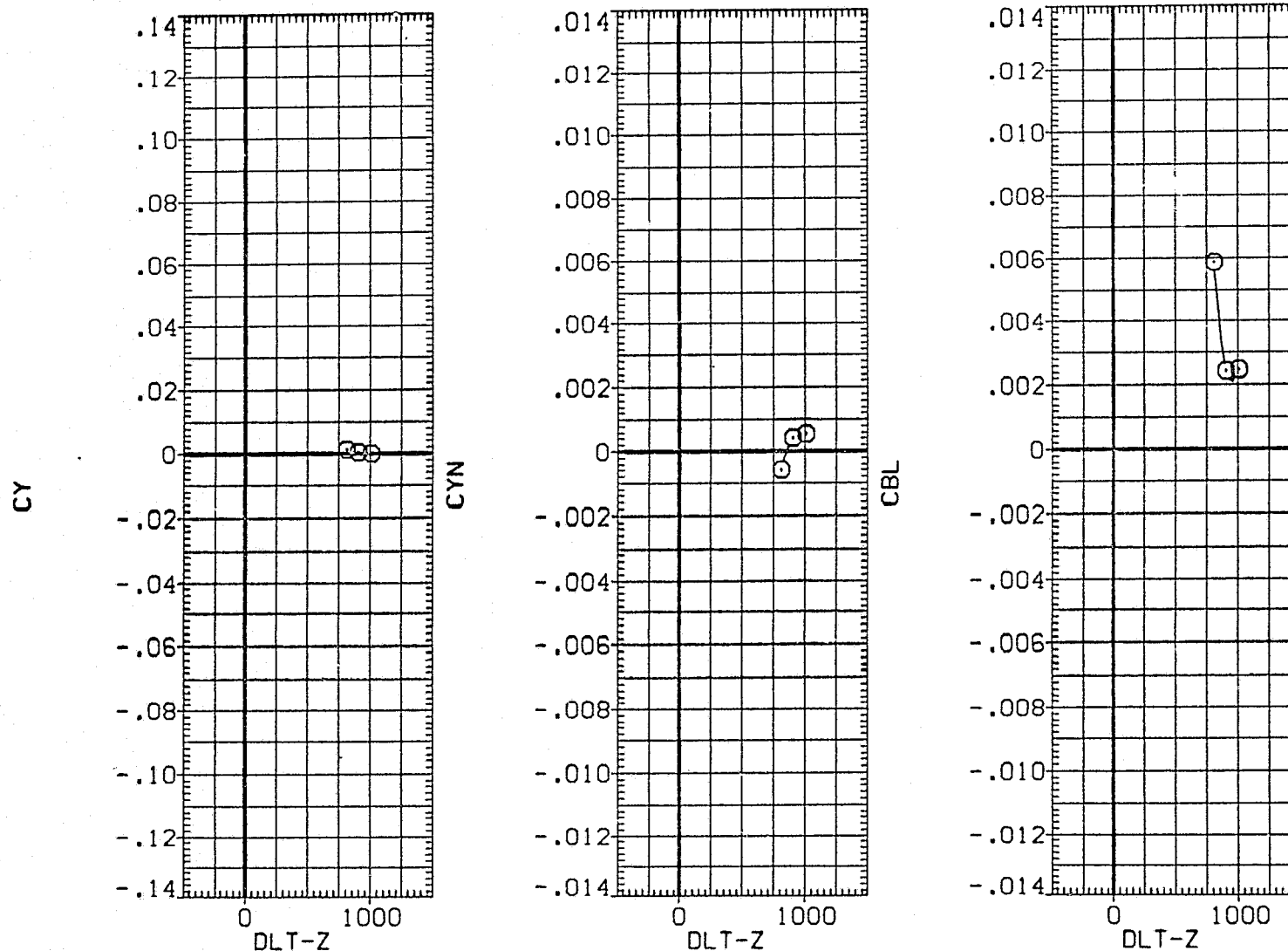


FIGURE 12 ORBITER AERO CHARACTERISTICS (DELTA-Y = 0, MACH= 7.98,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR201)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.462	BETA	60.000	.000	
□	200.450	DLTBT	.000	.000	
◇	400.460	AILRON	.000	5.930	
		GRID	1.000	ELEVON	.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

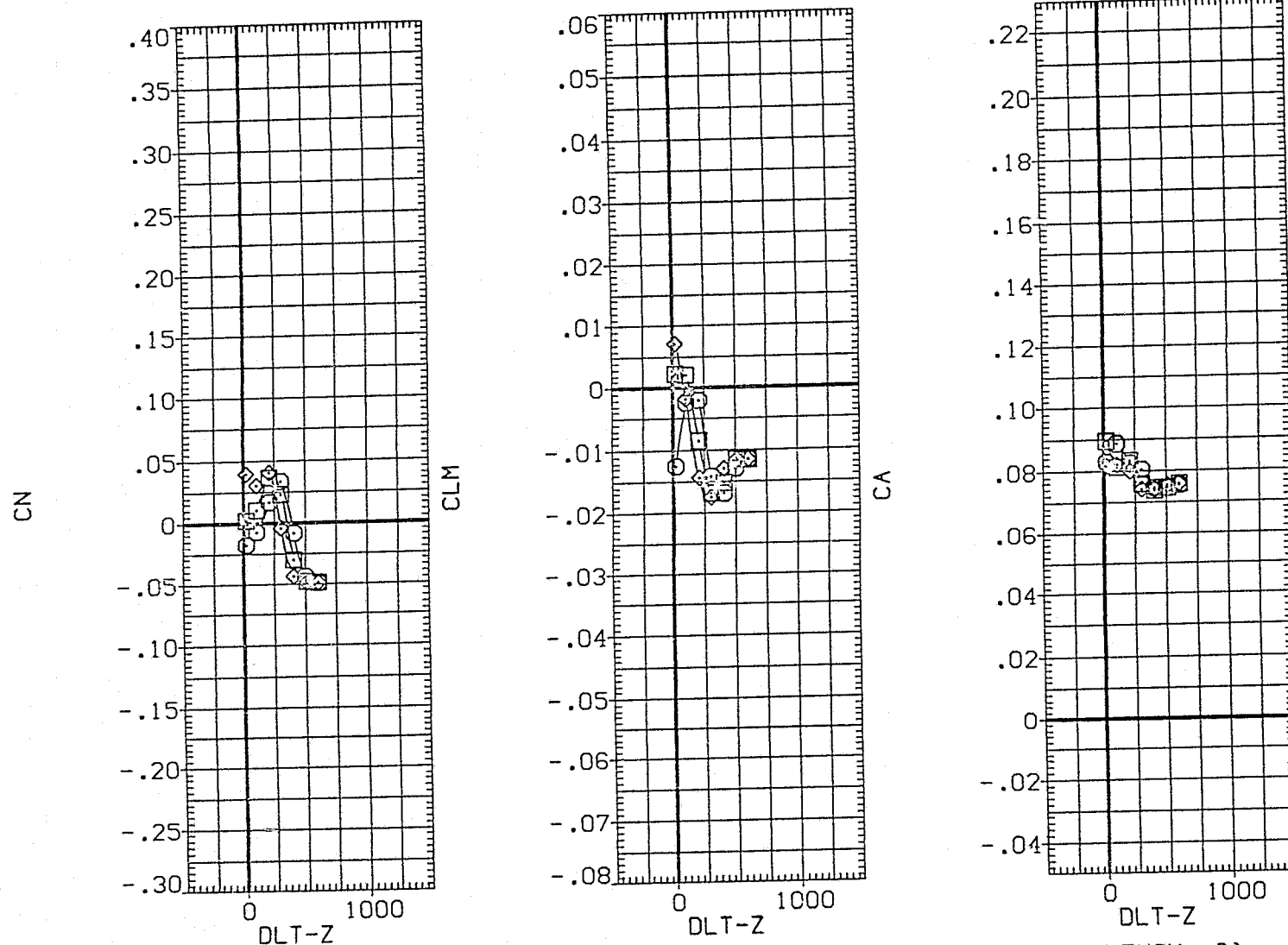


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR201)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.462	60.000	ALPHA .000
□	200.450	.000	DLTALF .000
◇	400.460	.000	MACH 5.930
		.000	ELEVON .000
		1.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

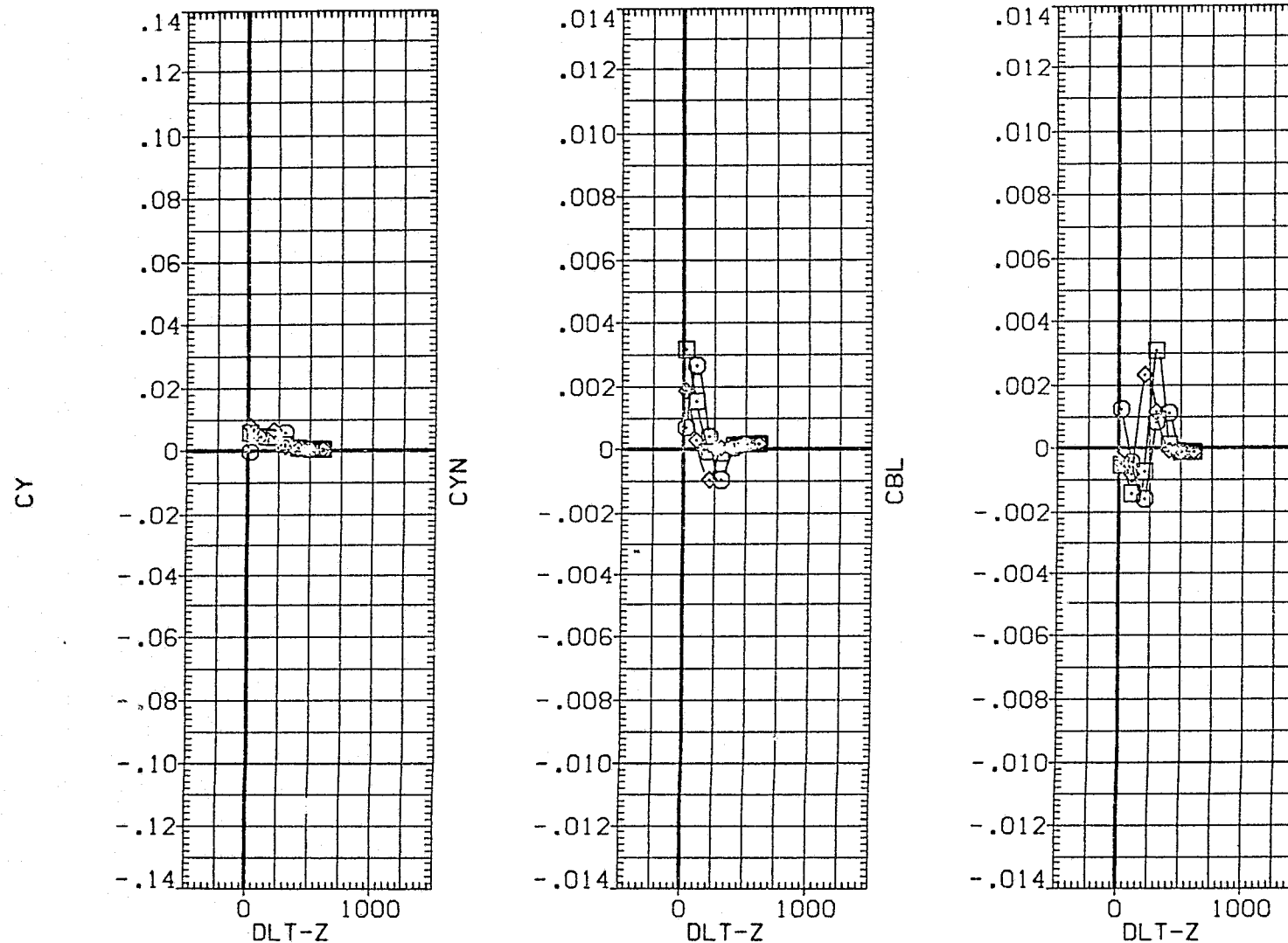


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR202)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.460	60.000	ALPHA	.000
□	200.470	.000	DLTALF	-10.000
◇	400.530	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

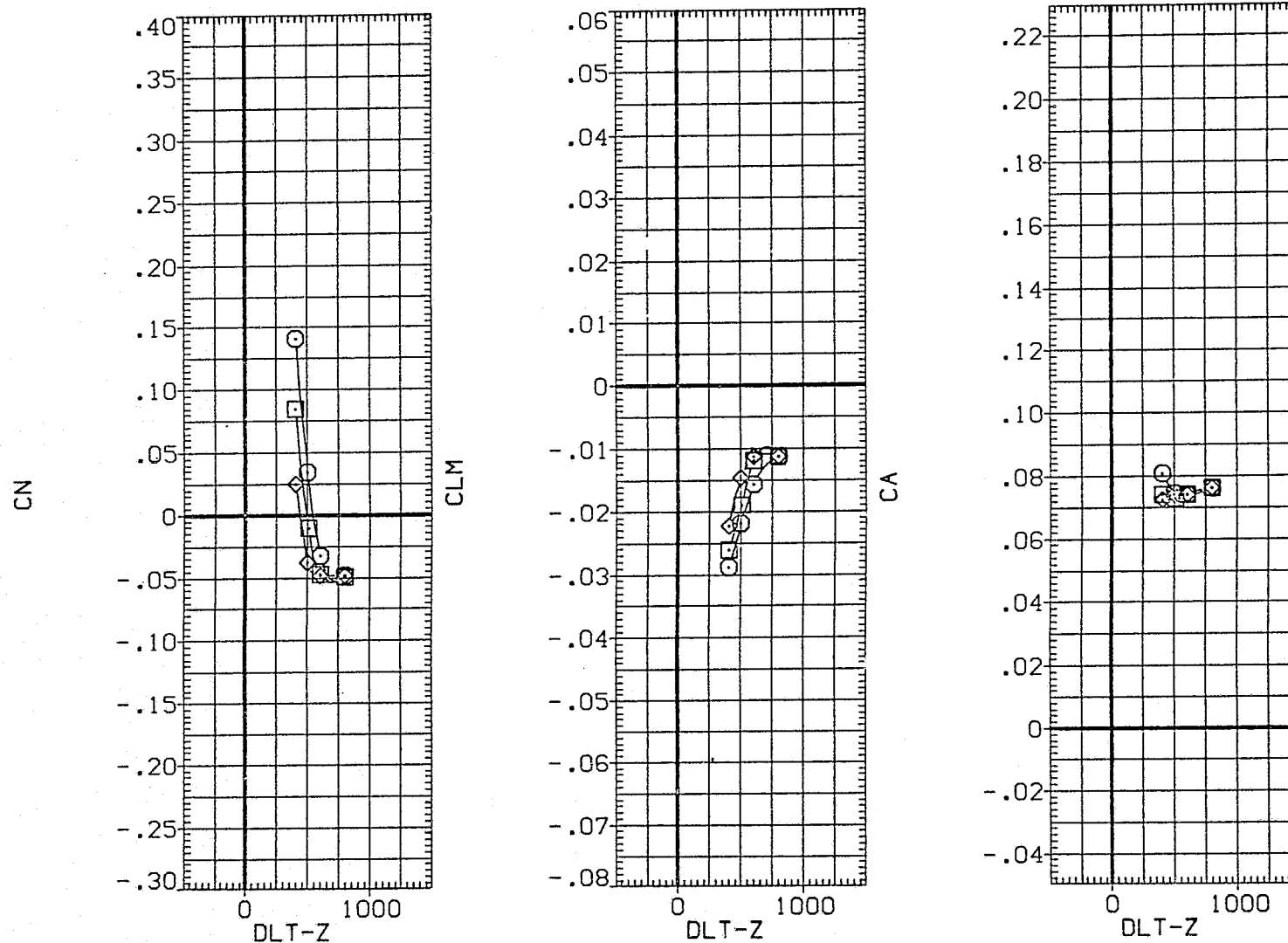


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR202)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.460	60.000	ALPHA	.000
□	200.470	BETA	DLTALF	-10.000
◇	400.530	DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		1.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

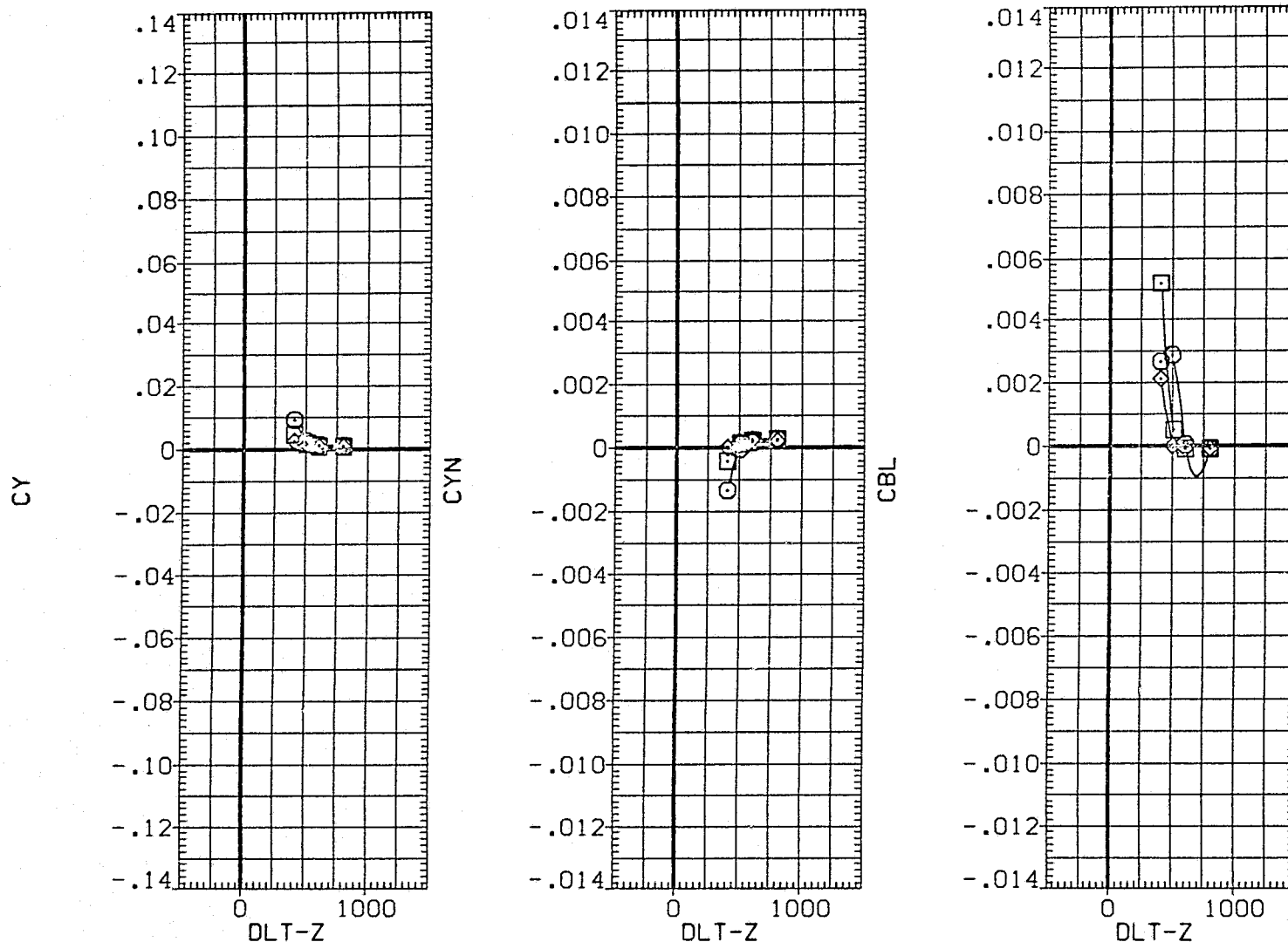


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR203)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.395	60.000	ALPHA	.000
□	200.490	.000	DLTALF	-20.000
◇	400.490	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

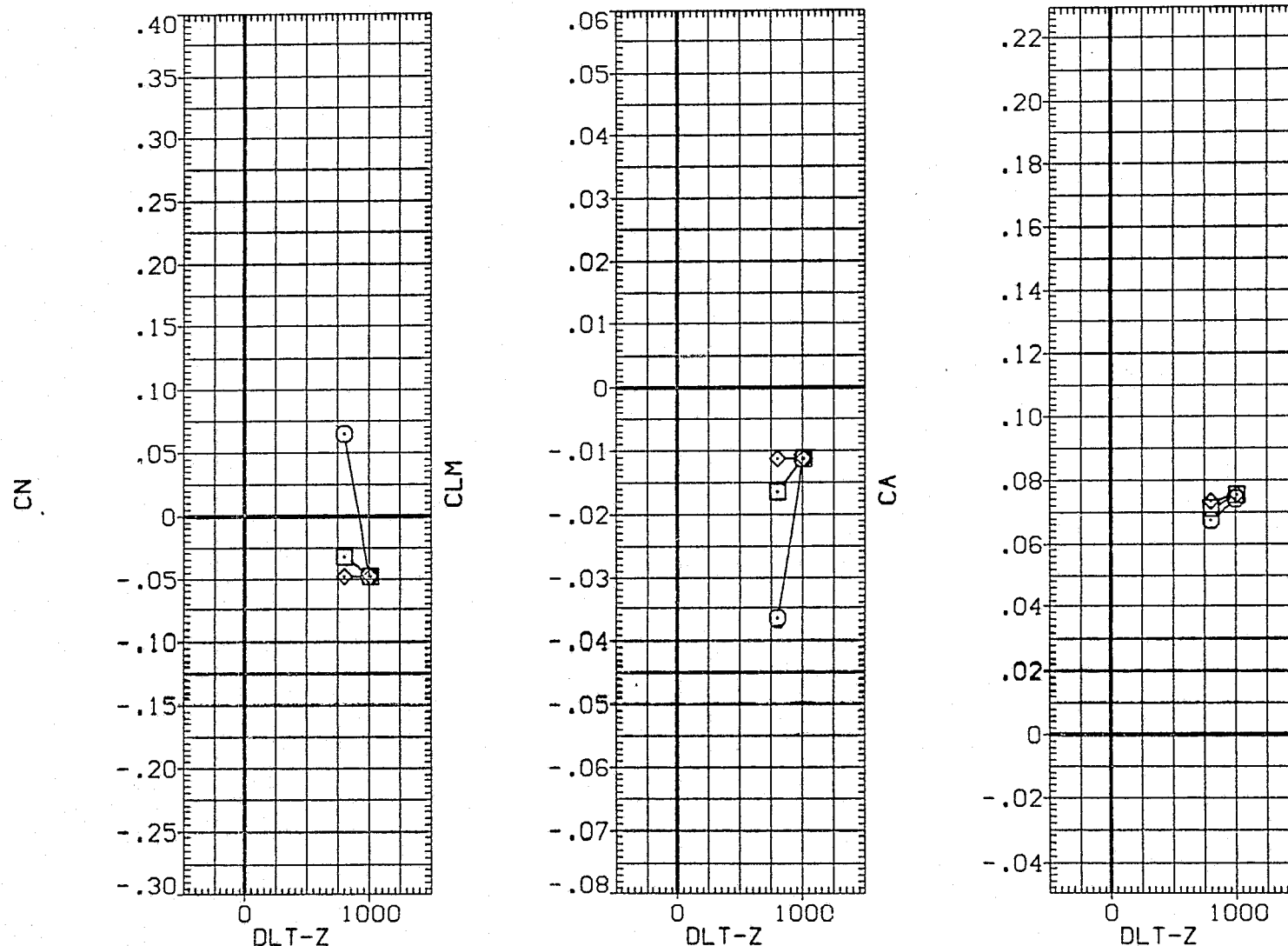


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR203)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.395	BETA	60.000	ALPHA .000
□	200.490	DLTBTA	.000	DLTALF -20.000
◇	400.490	AILRON	.000	MACH 5.930
		GRID	1.000	ELEVON .000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

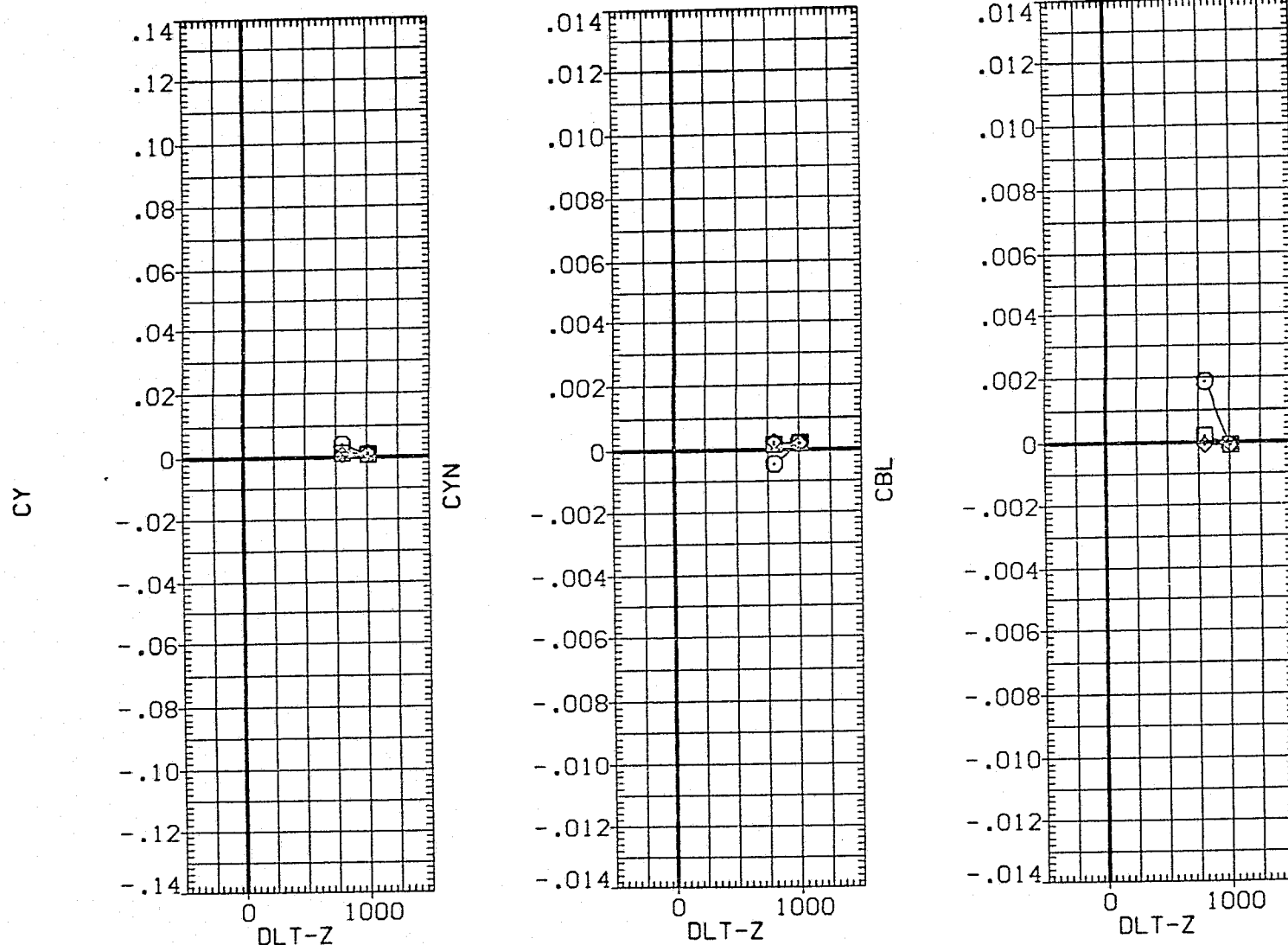


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR205)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.431	60.000	ALPHA .000
□	200.530	.000	DLTALF -20.000
◇	400.500	.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 26.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

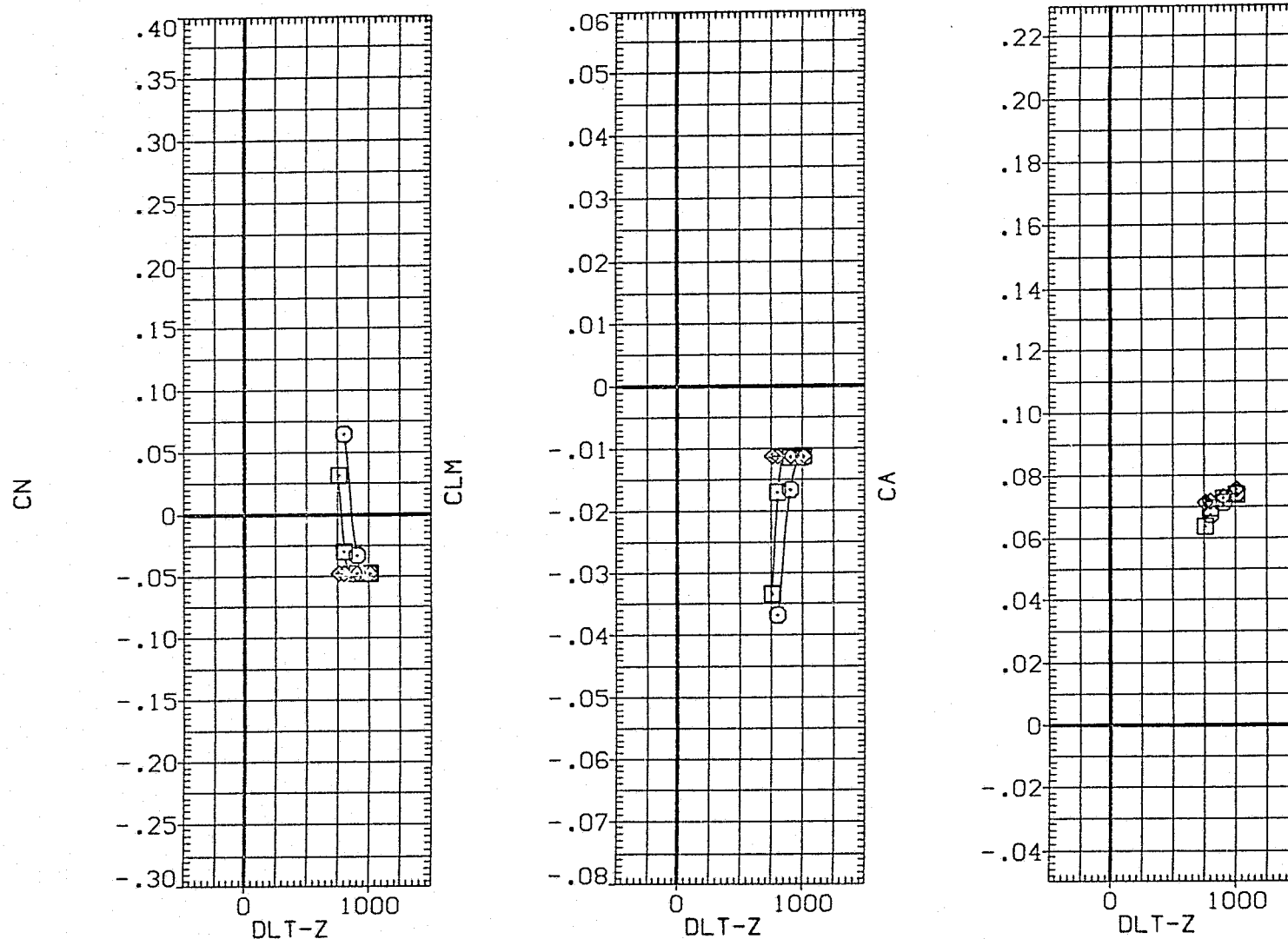


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR205)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.431	60.000	ALPHA	.000
□	200.530	.000	DLTALF	-20.000
◇	400.500	.000	MACH	5.930
		.000	ELEVON	.000
		26.000		
		GRID		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

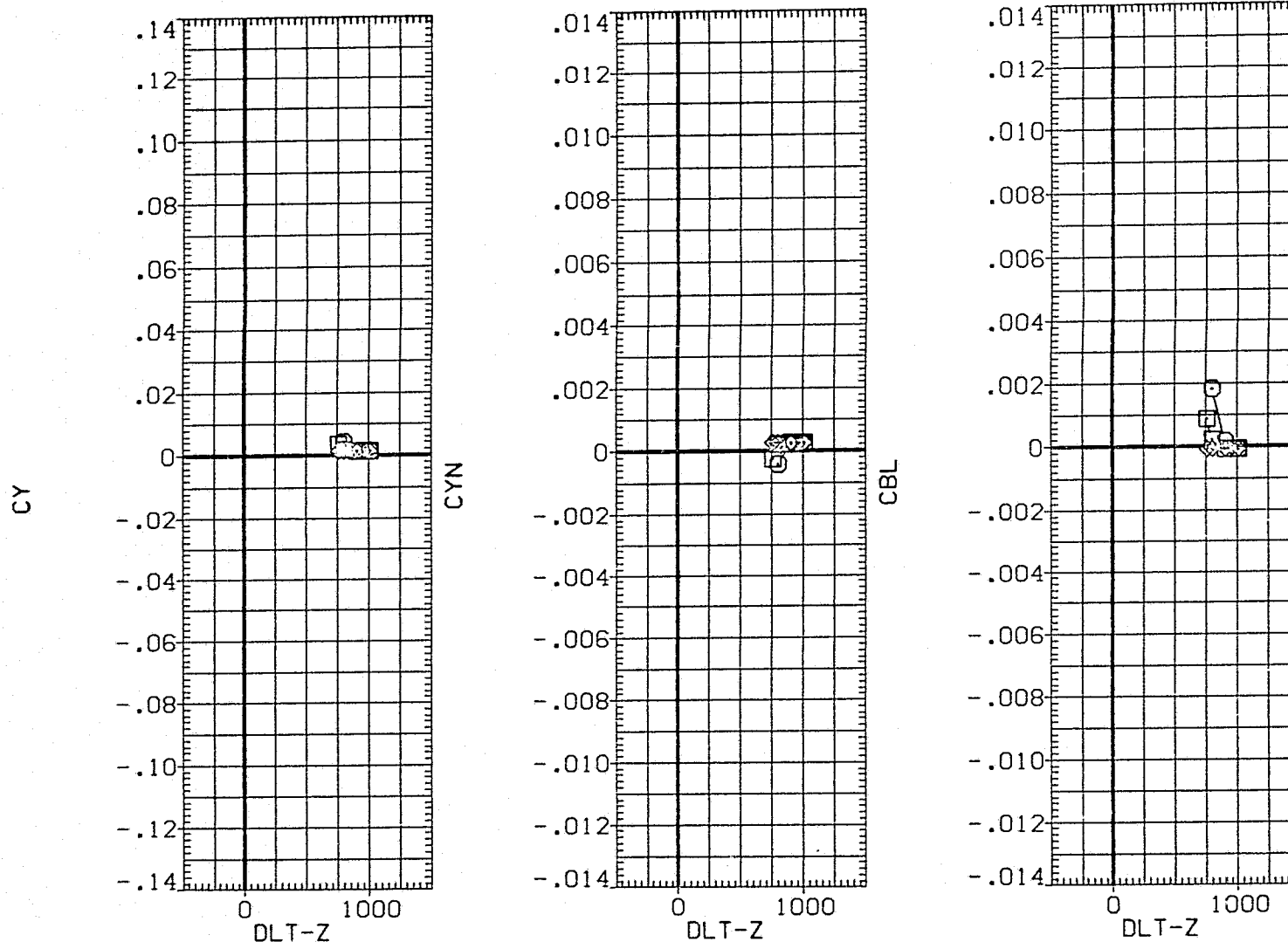


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR206)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.533	BETA	60.000	.000	
□	200.560	DLTBTA	.000	.000	
		AILRON	3.000	5.930	
		GRID	.000	.000	
			1.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

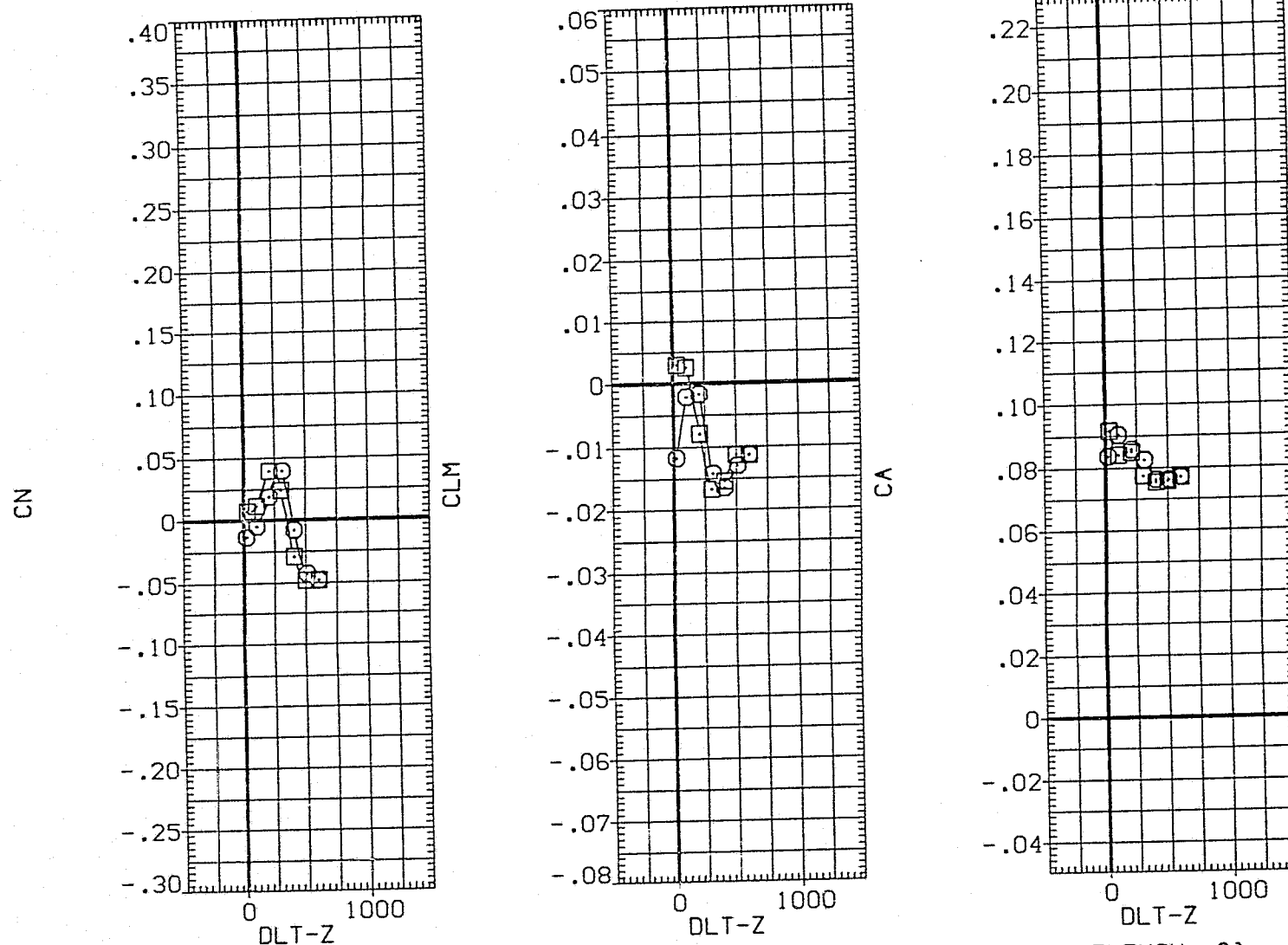


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR206)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.533	60.000	ALPHA .000
□	200.560	.000	DLTALF .000
		DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

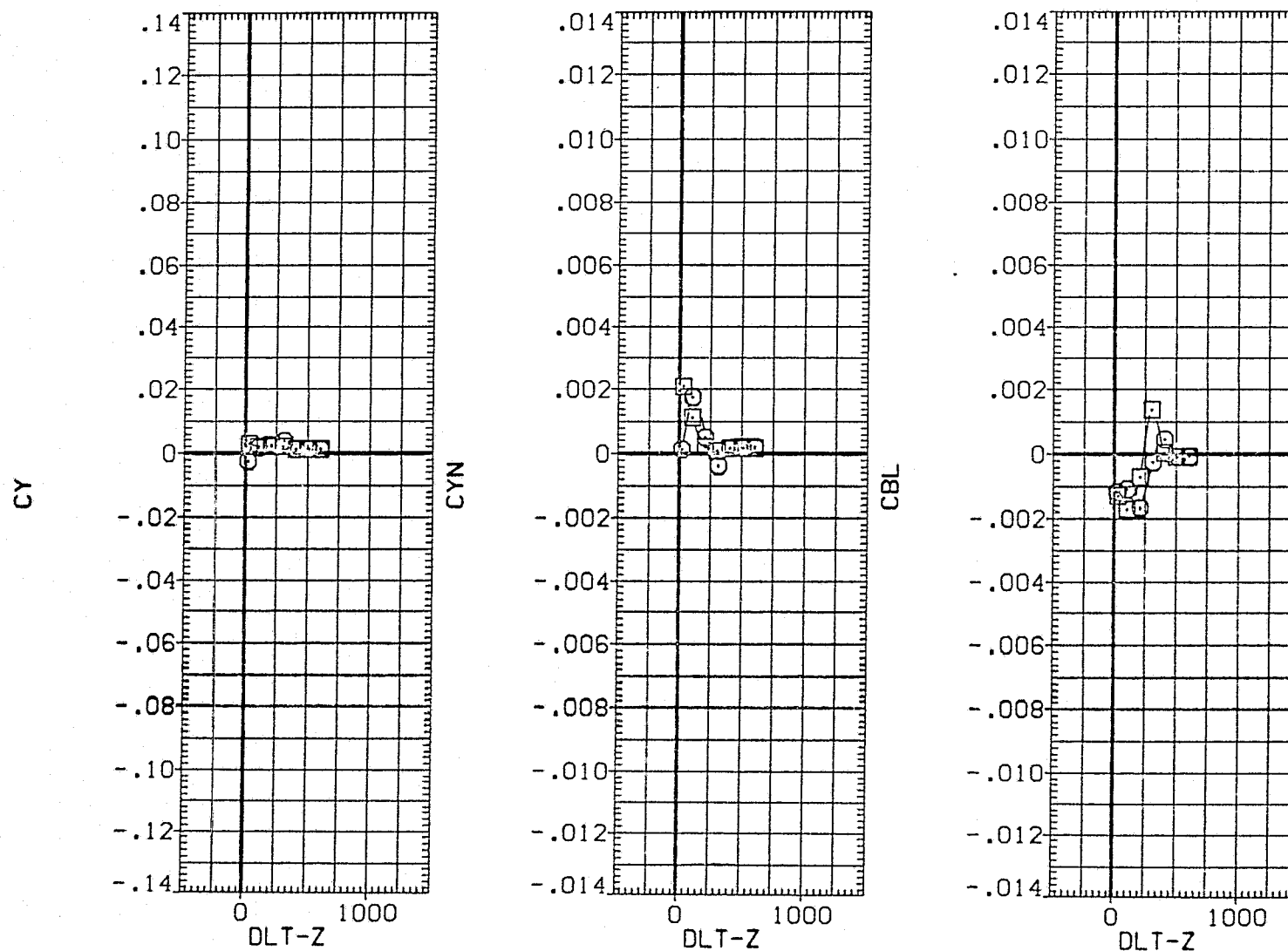


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR207)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.502	60.000	ALPHA	.000
□	200.470	.000	DLTALF	-10.000
◇	400.360	3.000	MACH	5.930
		.000	ELEVON	.000
		1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

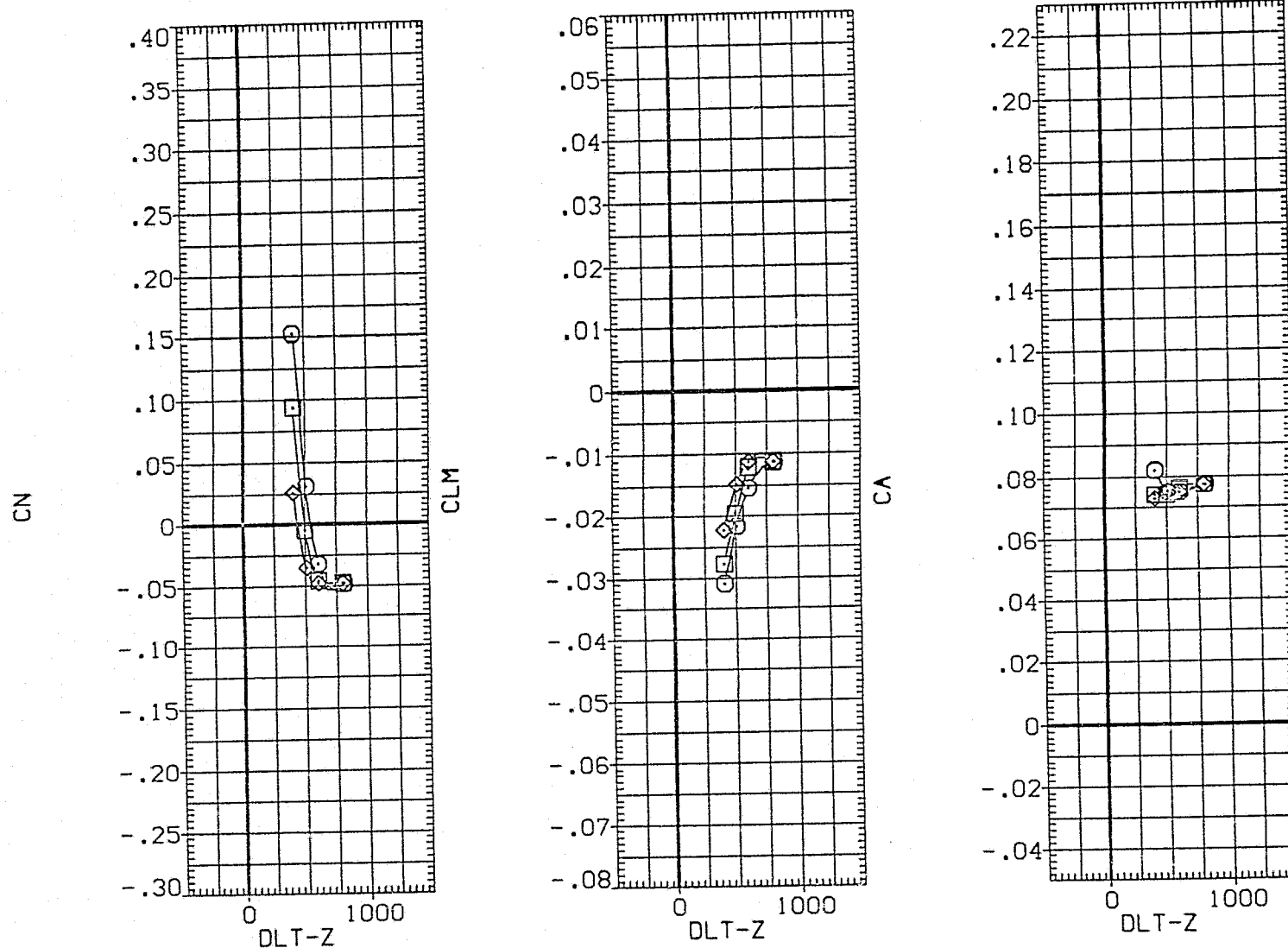


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR207)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.502	60.000	DLTALF	.000
□	200.470	.000	MACH	-10.000
◇	400.360	3.000	ELEVON	5.930
		.000		.000
		1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

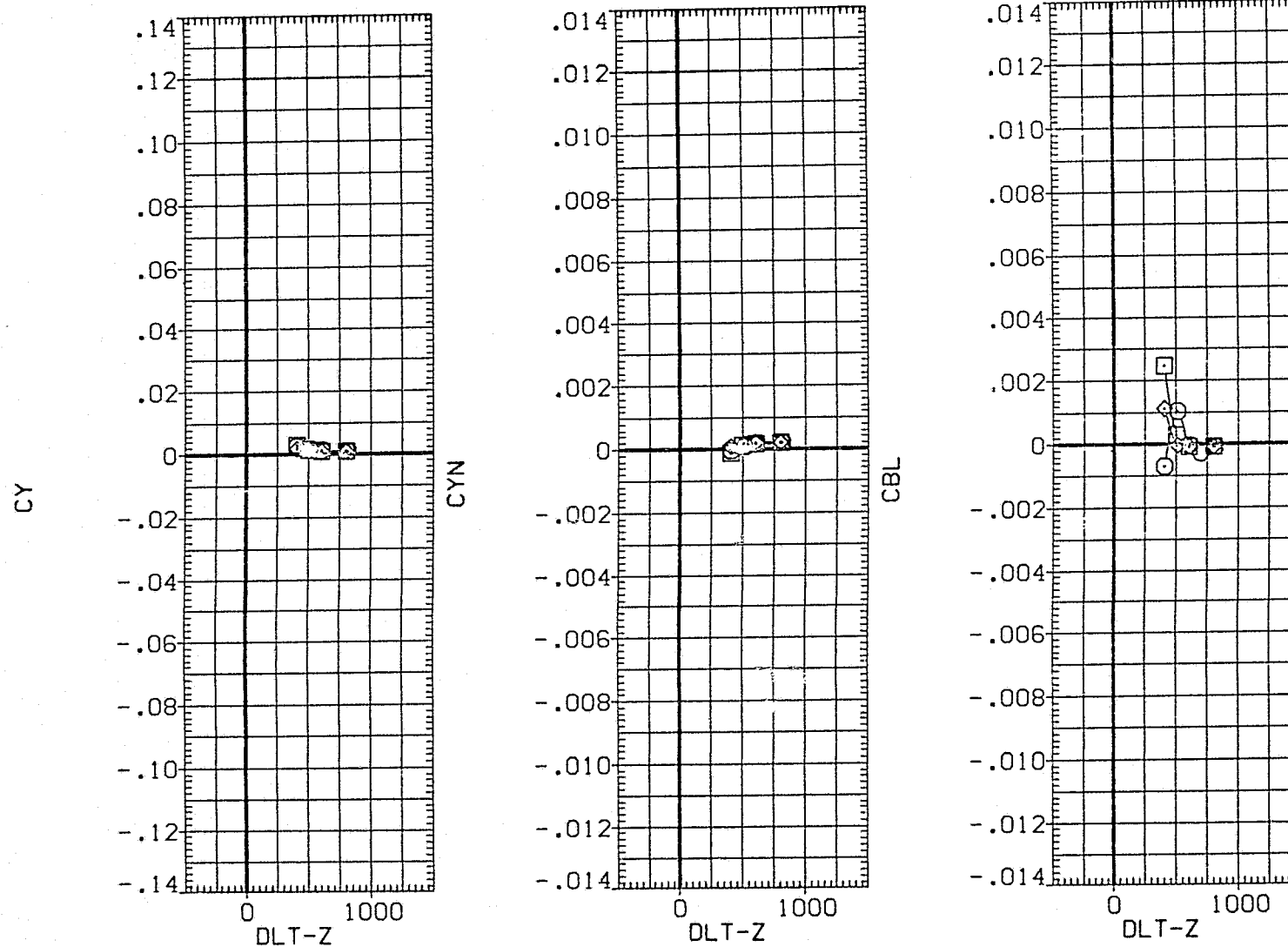


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR208)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.518	60.000	ALPHA	.000
□	200.460	.000	DLTALF	-20.000
◇	400.450	3.000	MACH	5.930
		.000	ELEVON	.000
		1.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

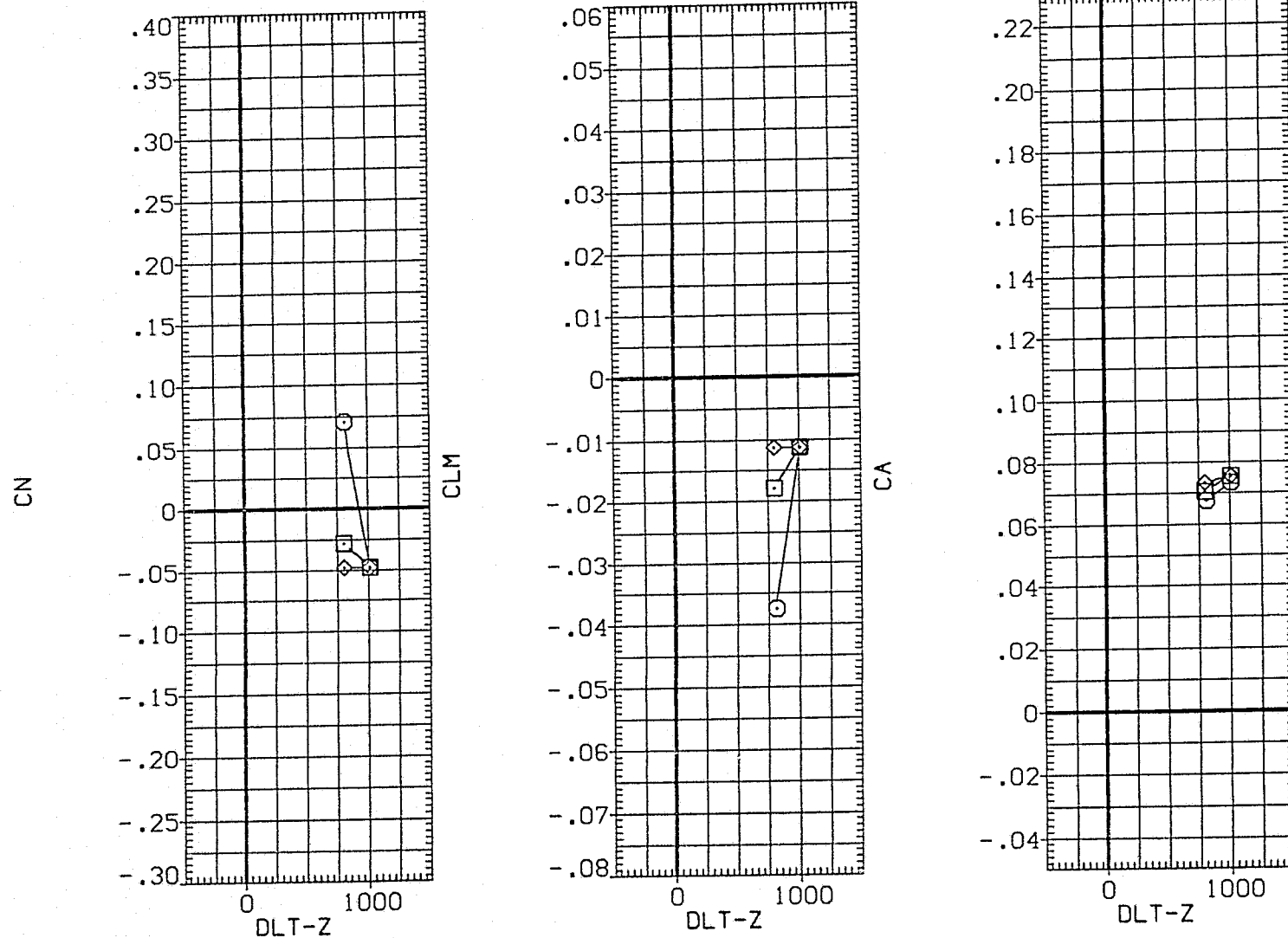


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR208)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.518	60.000	ALPHA	.000	
□	200.460	BETA	.000	DLTALF	-20.000
◇	400.450	DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

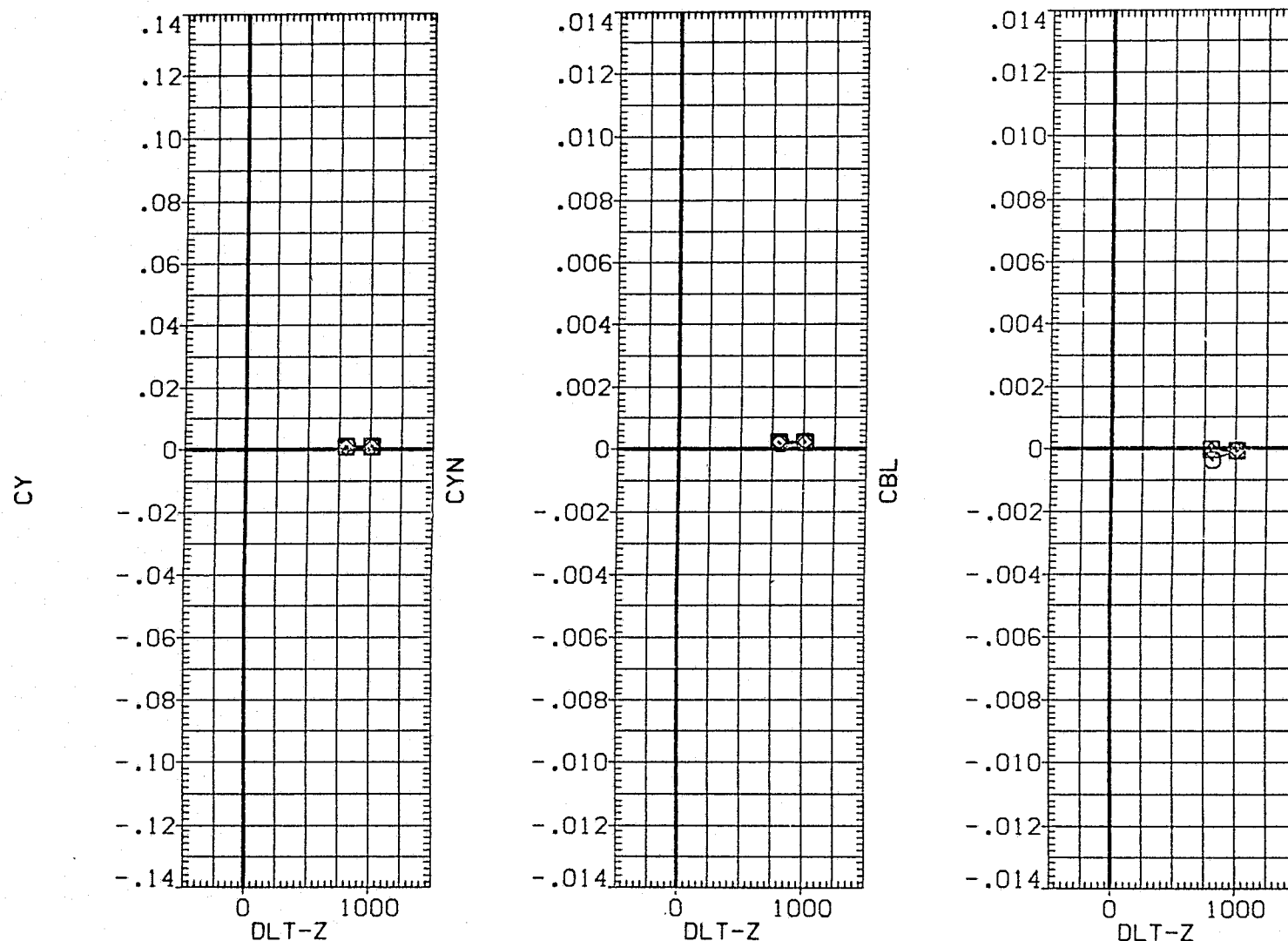


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR210)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.475	DLT-Y	60.000	ALPHA .000
□	200.400	BETA	.000	DLTALF -20.000
◇	400.500	DLTBTA	3.000	MACH 5.930
		ATLRON	.000	ELEVON .000
		GRID	26.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

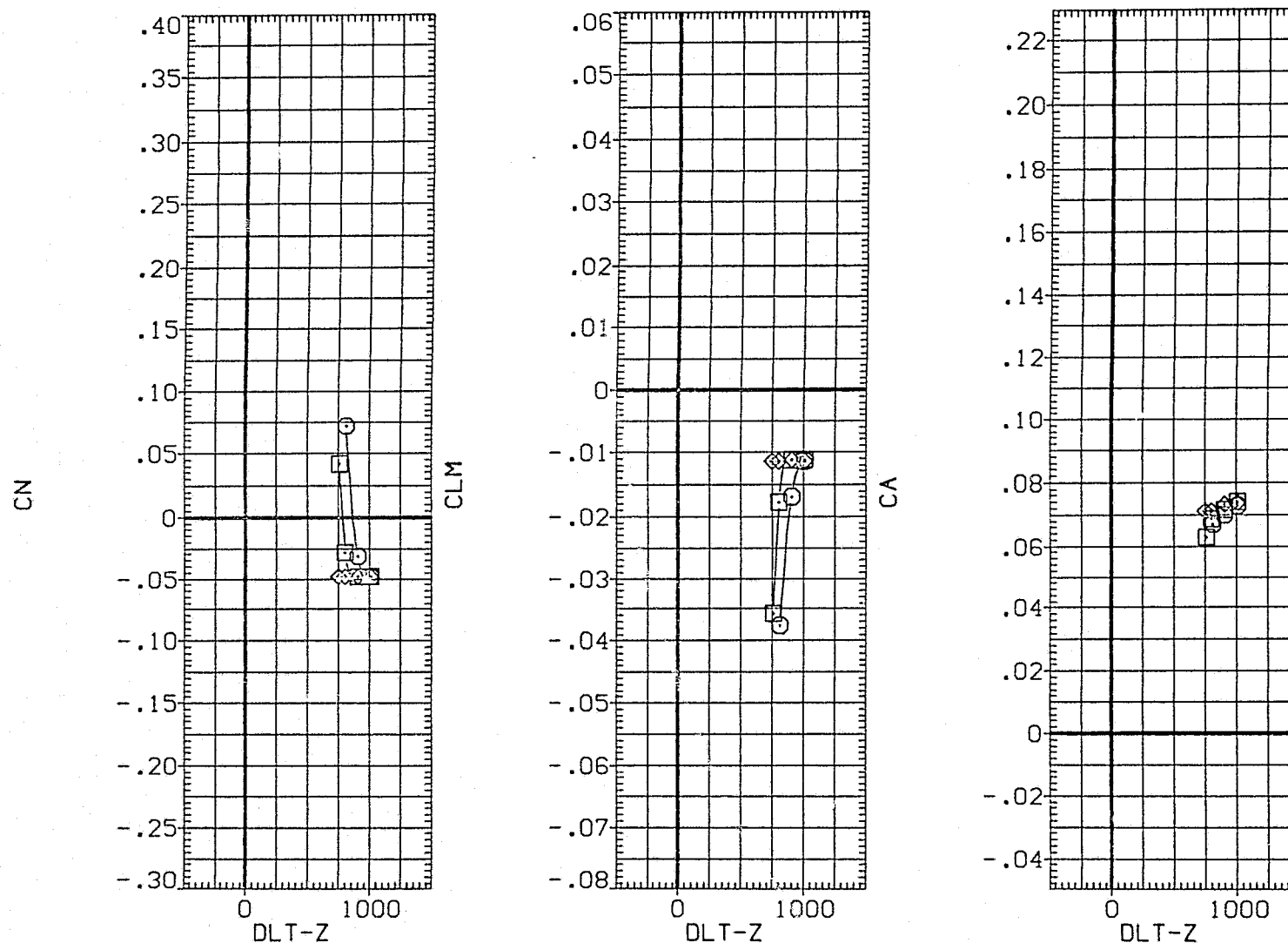


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR210)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.475	60.000	ALPHA	.000	
□	200.400	BETA	.000	DLTALF	-20.000
◇	400.500	DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	26.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

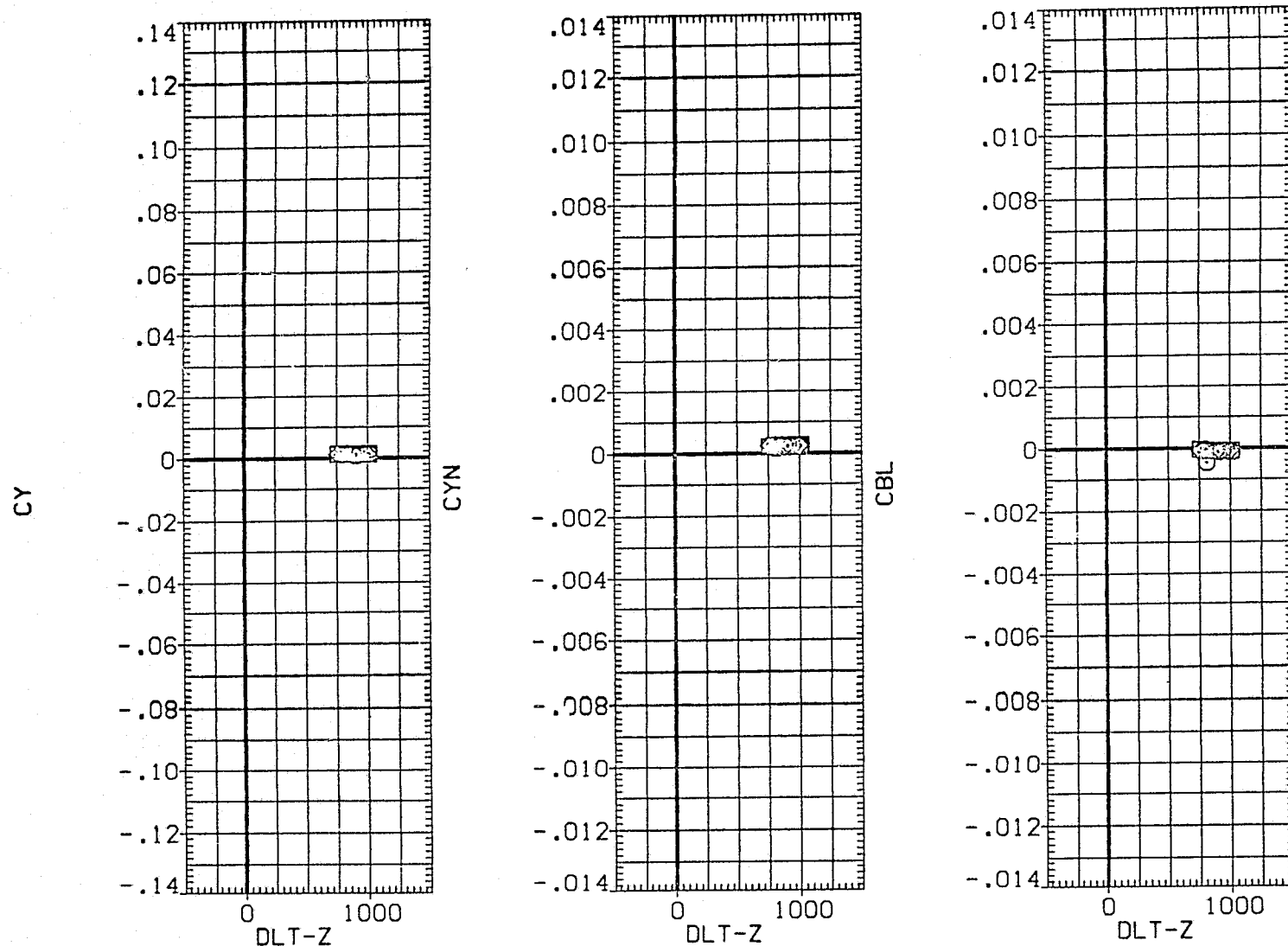


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR211)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.554	BETA	60.000	ALPHA .000
□	200.600	DLTBT	3.000	DLTALF .000
		AILRON	.000	MACH 5.930
		GRID	3.000	ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

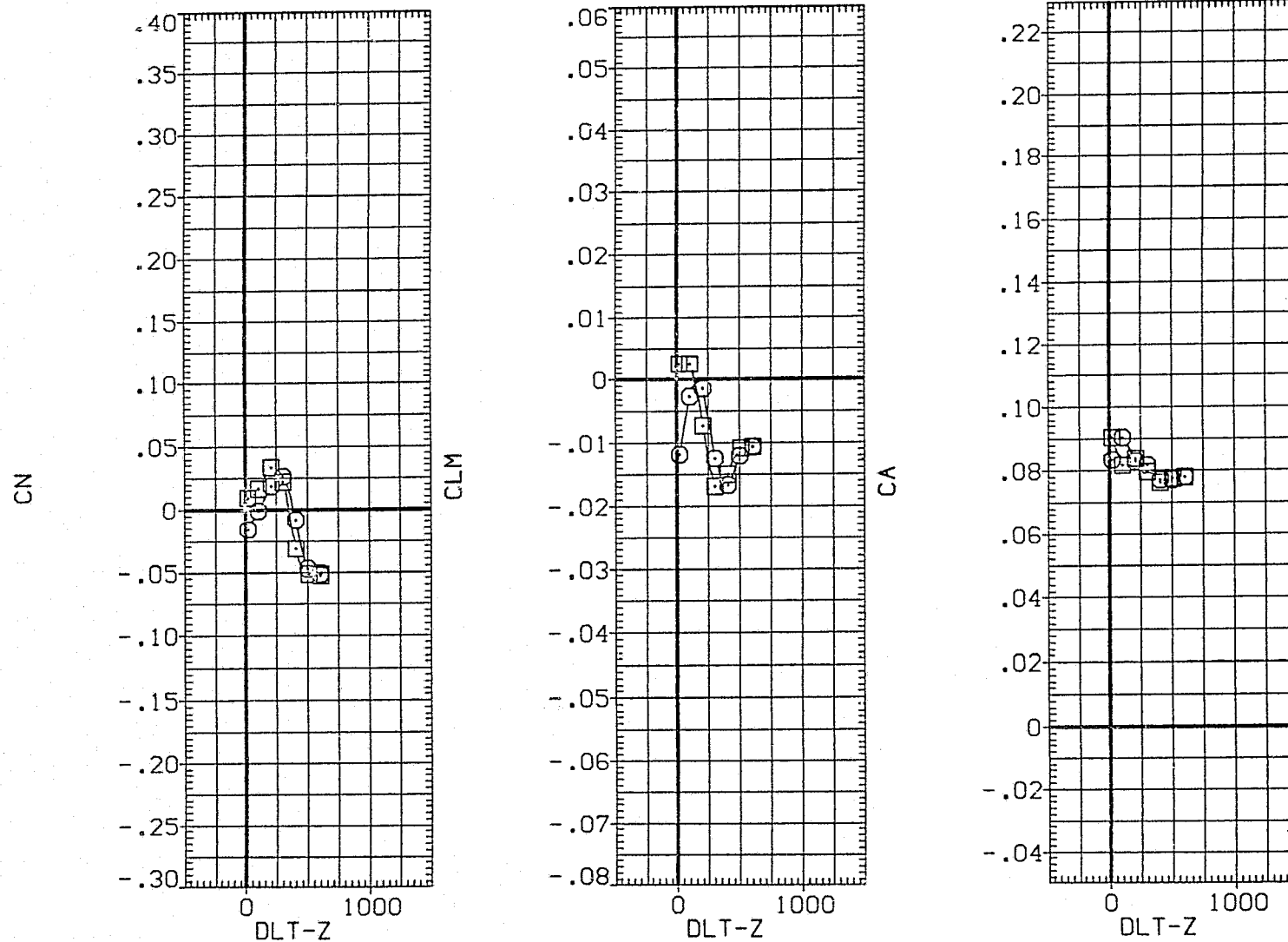


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR211)

SYMBOL	DLT-X		PARAMETRIC VALUES		
	DLT-X	DLT-Y	60.000	ALPHA	.000
○	.554	BETA	3.000	DLTALF	.000
□	200.600	DLTBTA	.000	MACH	5.930
		AIRLON	.000	ELEVON	.000
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

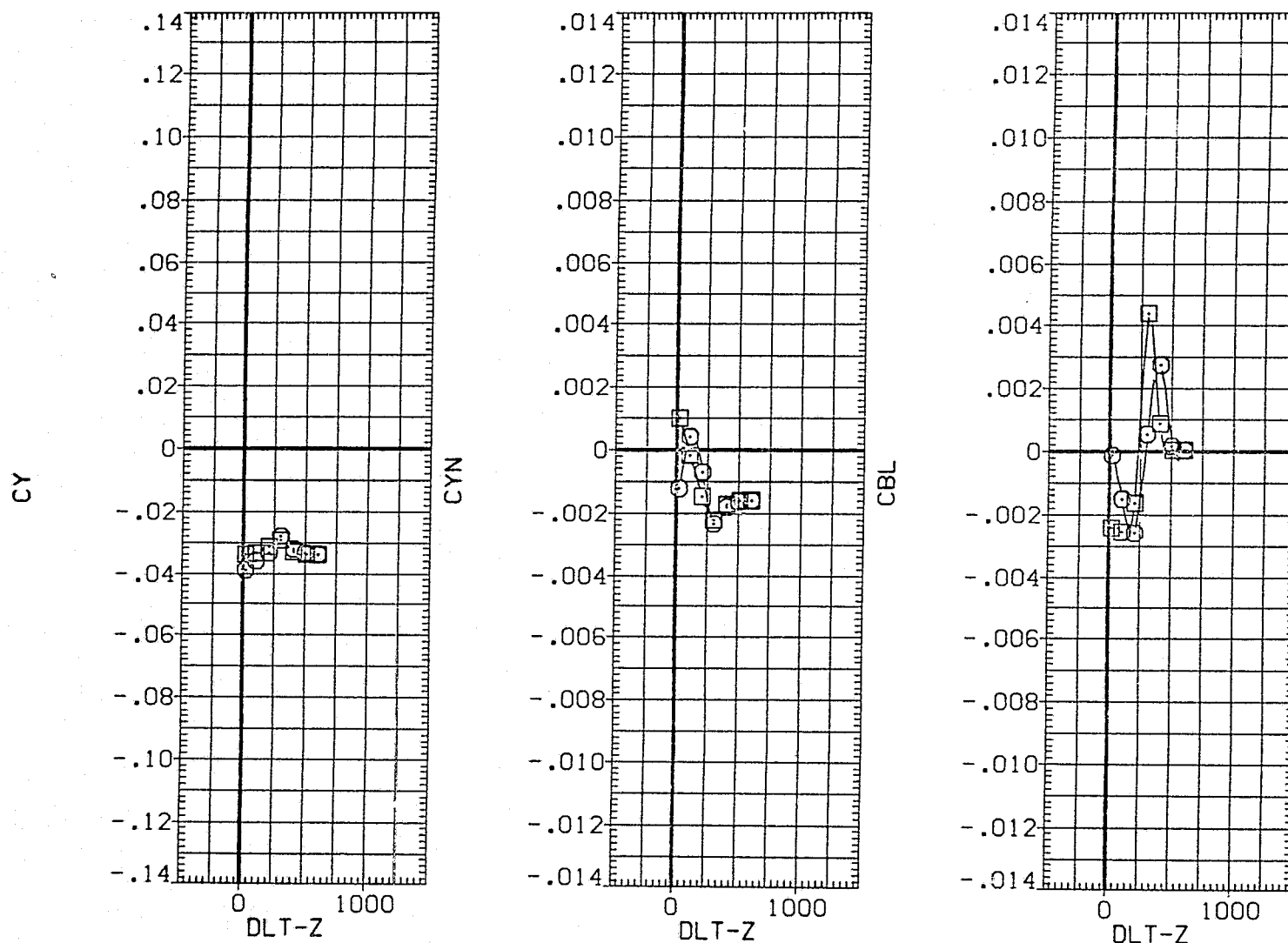


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR212)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.462	60.000	ALPHA	.000
□	200.550	3.000	DLTALF	-10.000
◇	400.530	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

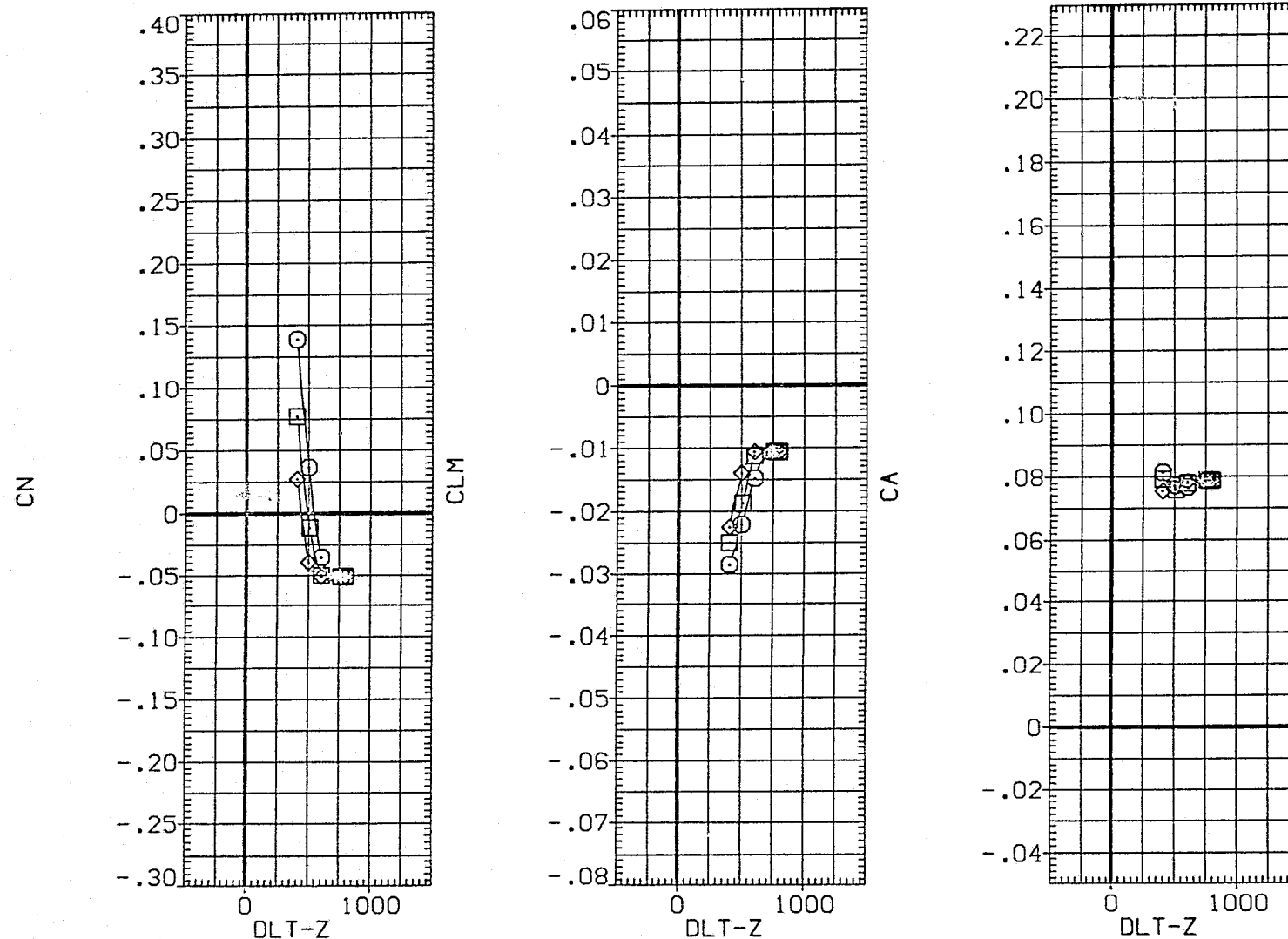


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR212)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
	.462	BETA	60.000	ALPHA
	200.550	DLTBT	3.000	DLTALF
	400.530	AILRON	.000	MACH
		GRID	.000	ELEVON
			3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	375.0000	IN. Y0
SCALE	.0100	IN. Z0

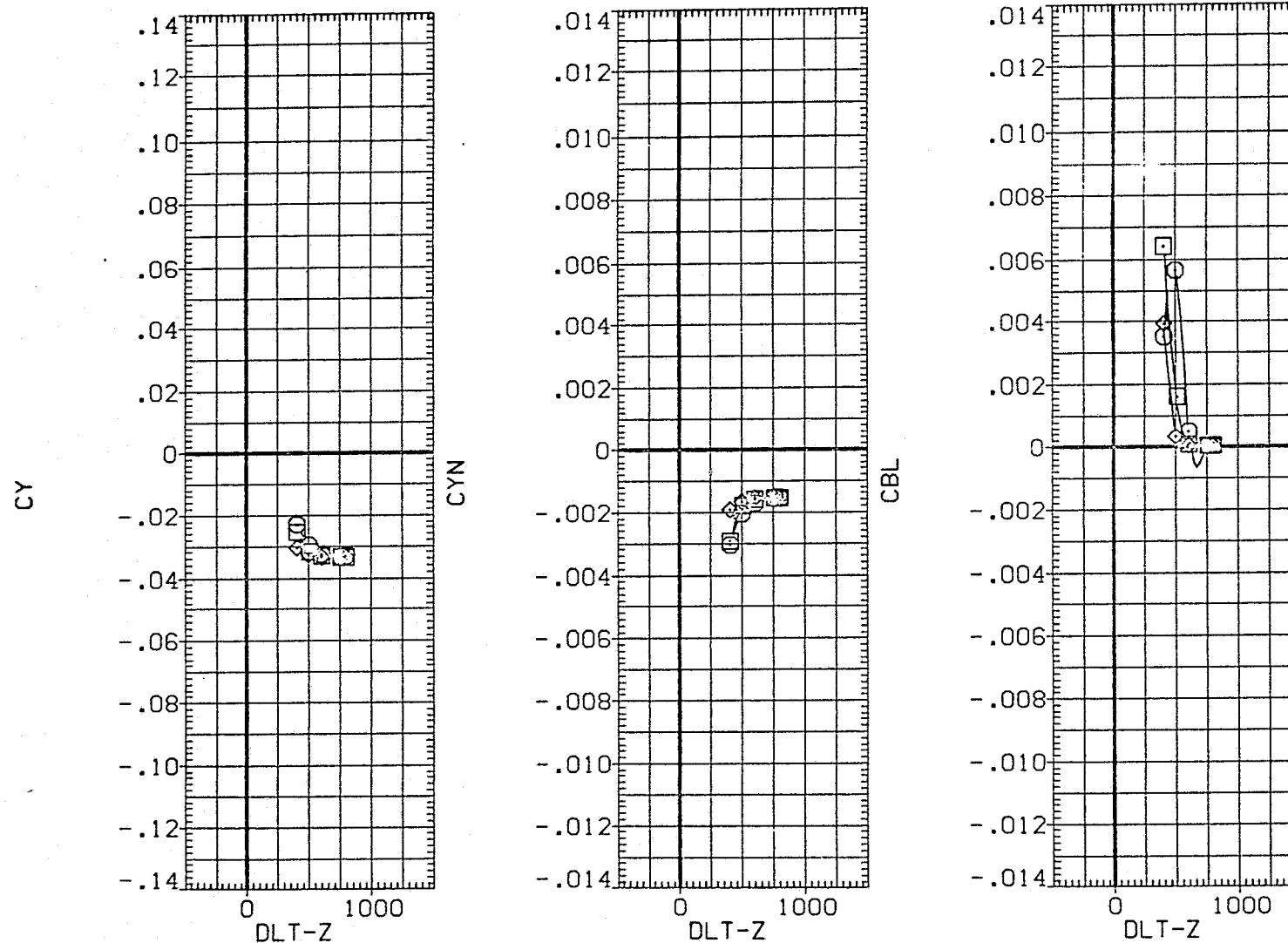


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR214)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.443	60.000	ALPHA .000
□	200.490	BETA 3.000	DLTALF -20.000
◇	400.390	DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

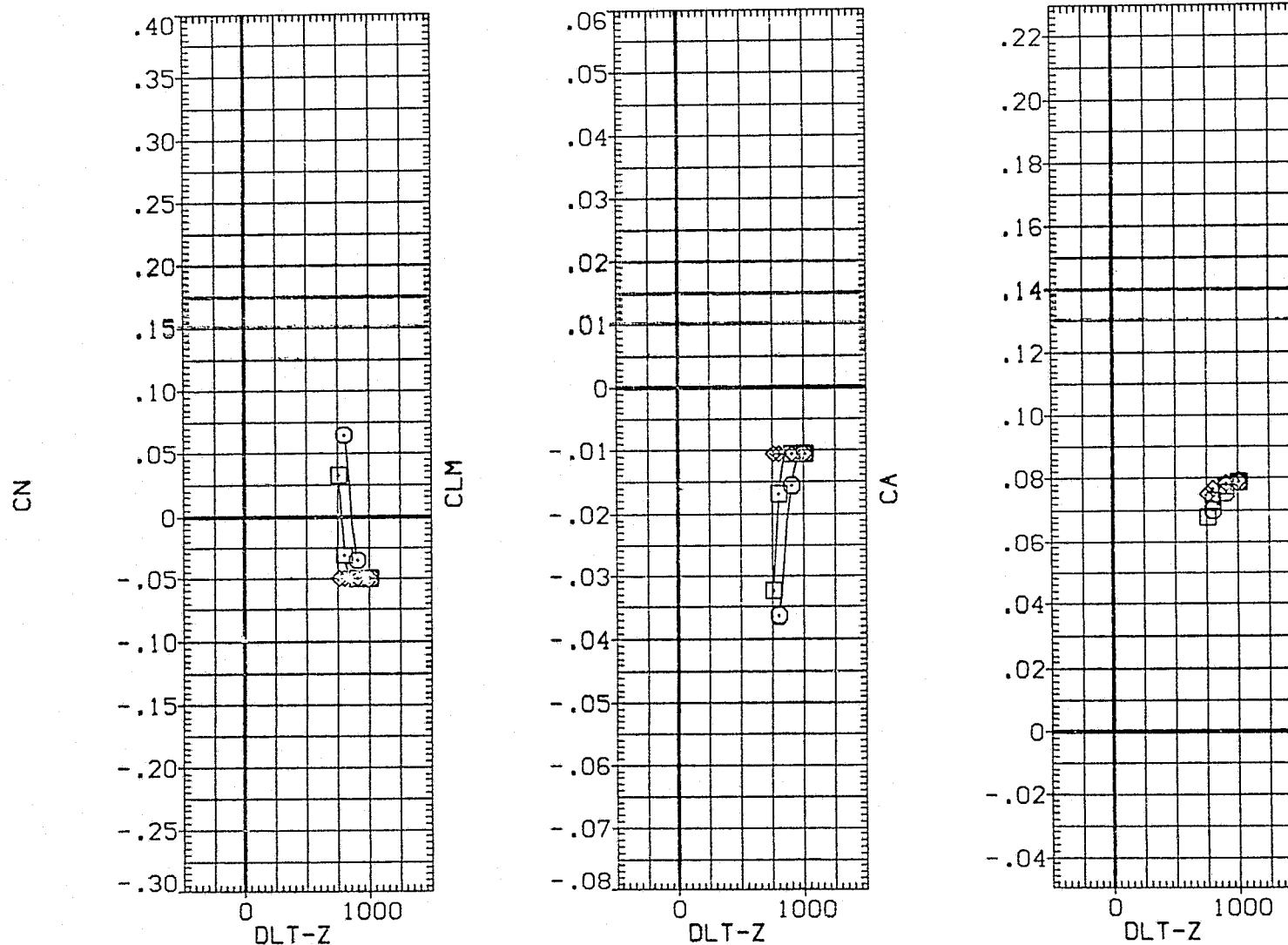


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR214)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.443	60.000	DLTALF	.000	
□	200.490	3.000	MACH	-20.000	
◇	400.390	.000	ELEVON	5.930	
		AILRON		.000	
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

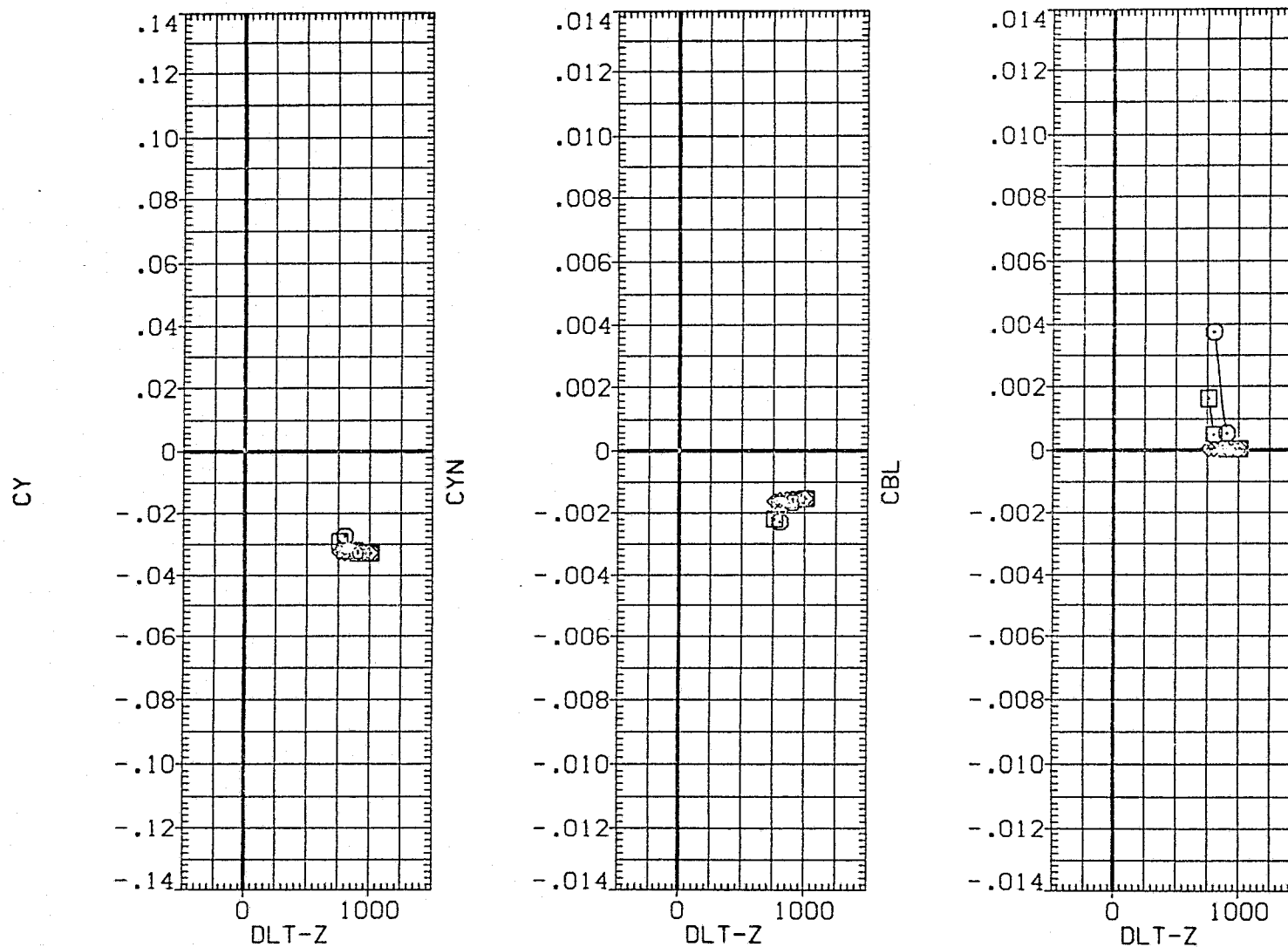


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR215)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.647	BETA	60.000	ALPHA .000
□	200.660	DLTBT	3.000	DLTALF .000
		AILRON	3.000	MACH 5.930
		GRID	.000	ELEVON .000
			3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

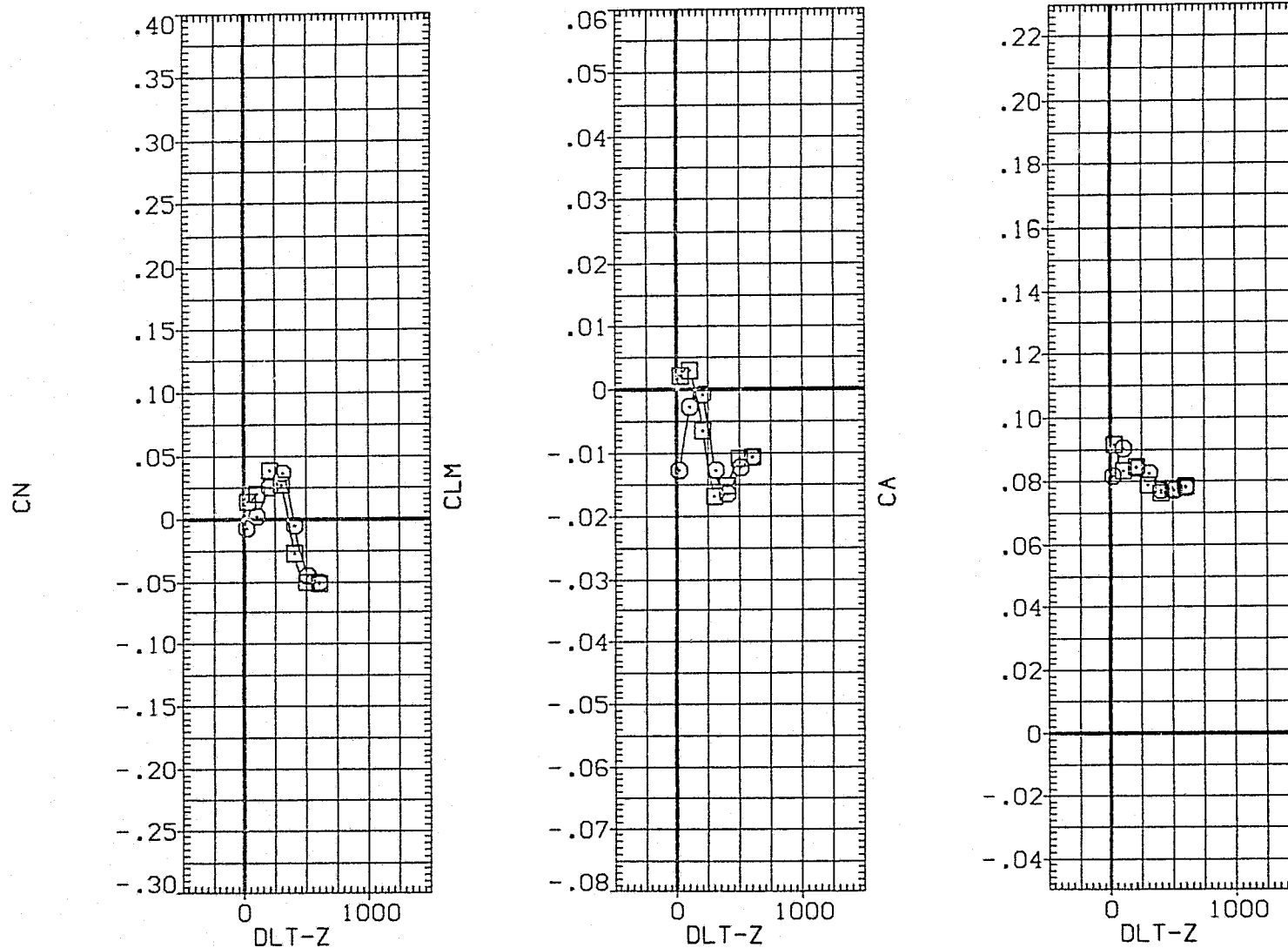


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR215)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.647	60.000	BETA	3.000	.000
□	200.660	3.000	DLTBT	3.000	.000
		.000	AILRON	.000	5.930
		3.000	GRID	3.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

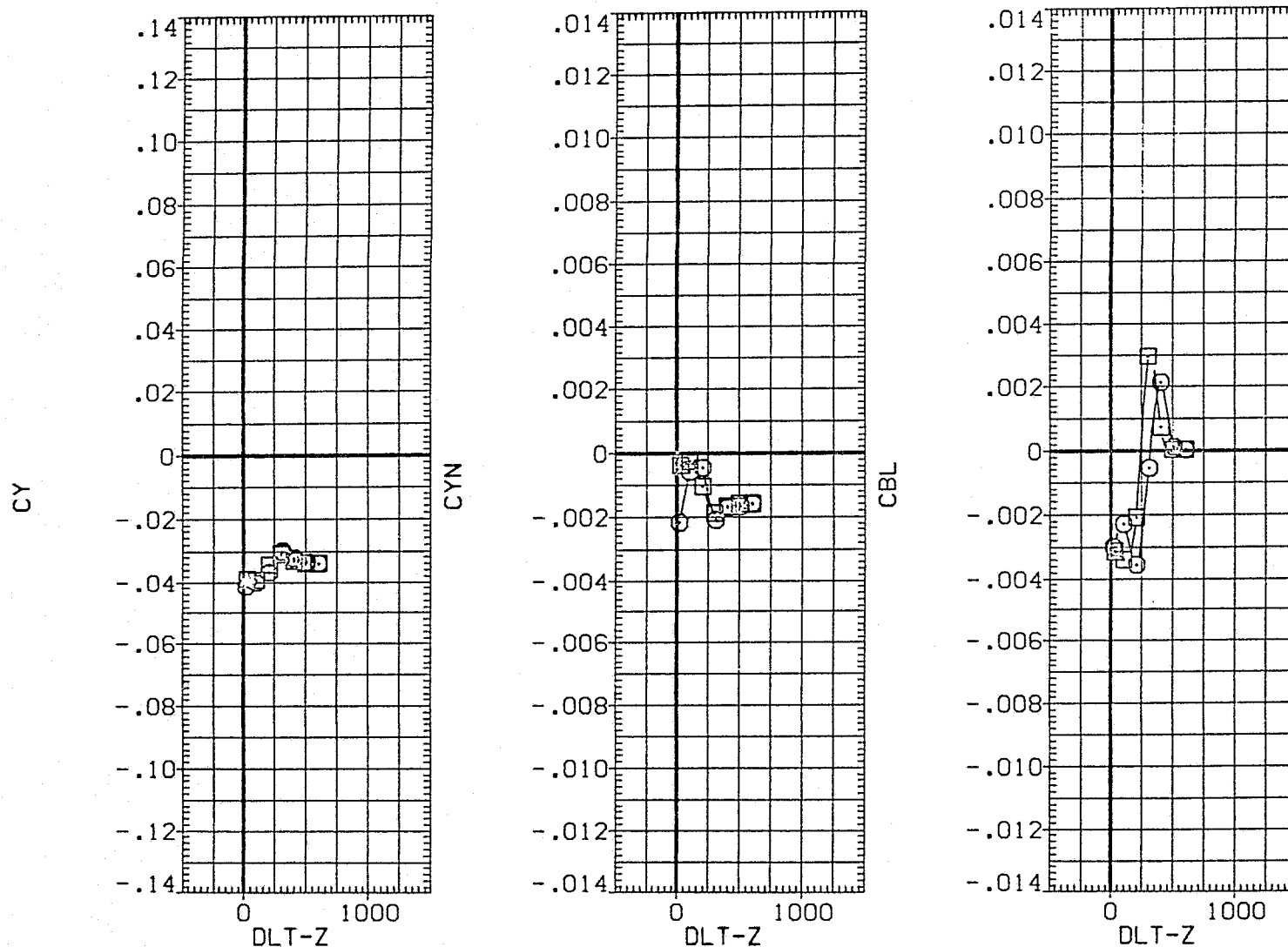


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR216)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.532	60.000	DLTALF	.000
□	200.510	3.000	MACH	-10.000
◇	400.500	3.000	ELEVON	5.930
		.000	GRID	.000
		3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

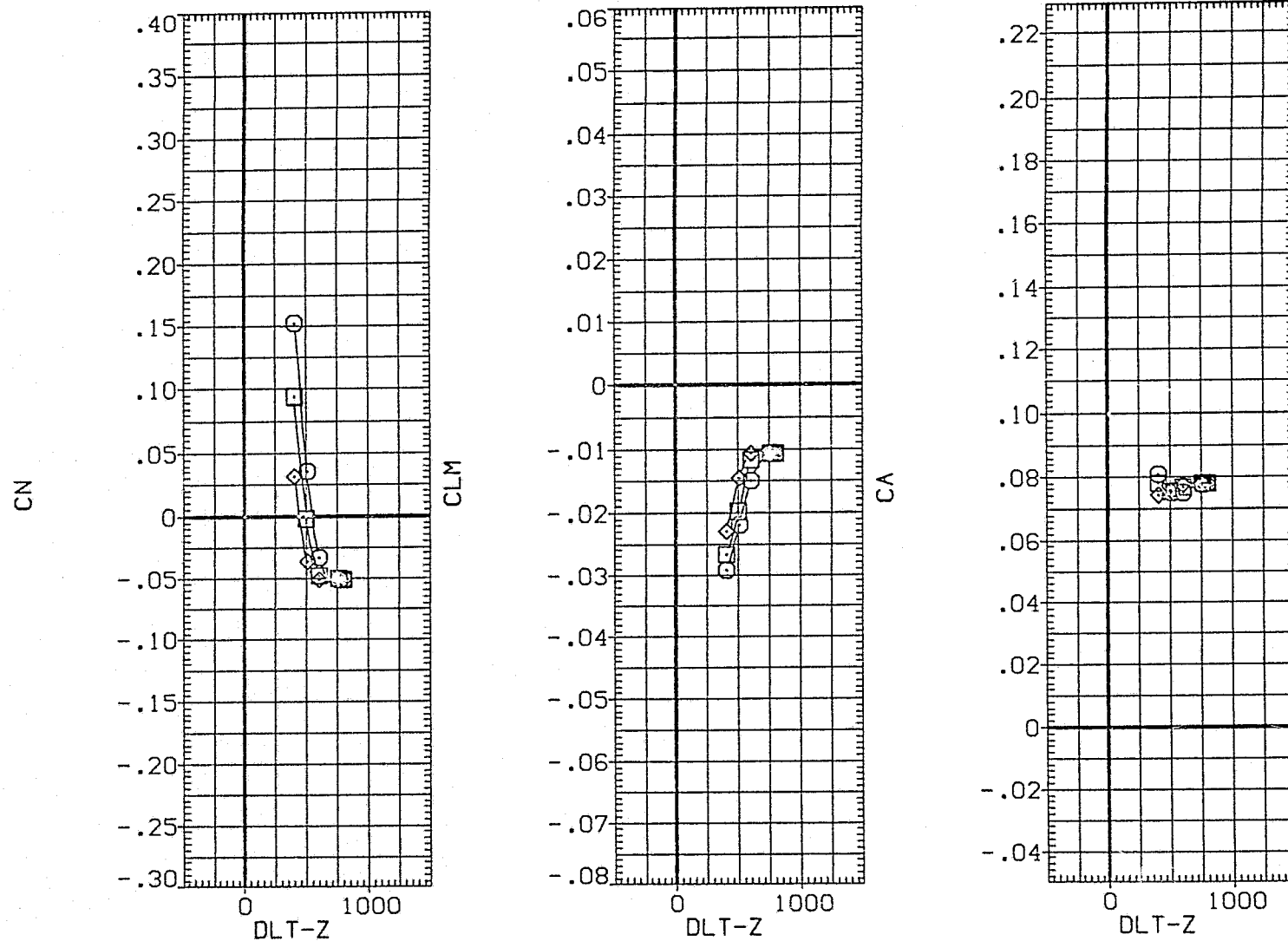


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR216)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.532	60.000	ALPHA	.000
□	200.510	BETA	3.000	DLTALF -10.000
◇	400.500	DLTBTA	3.000	MACH 5.930
		ATLRON	.000	ELEVON .000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

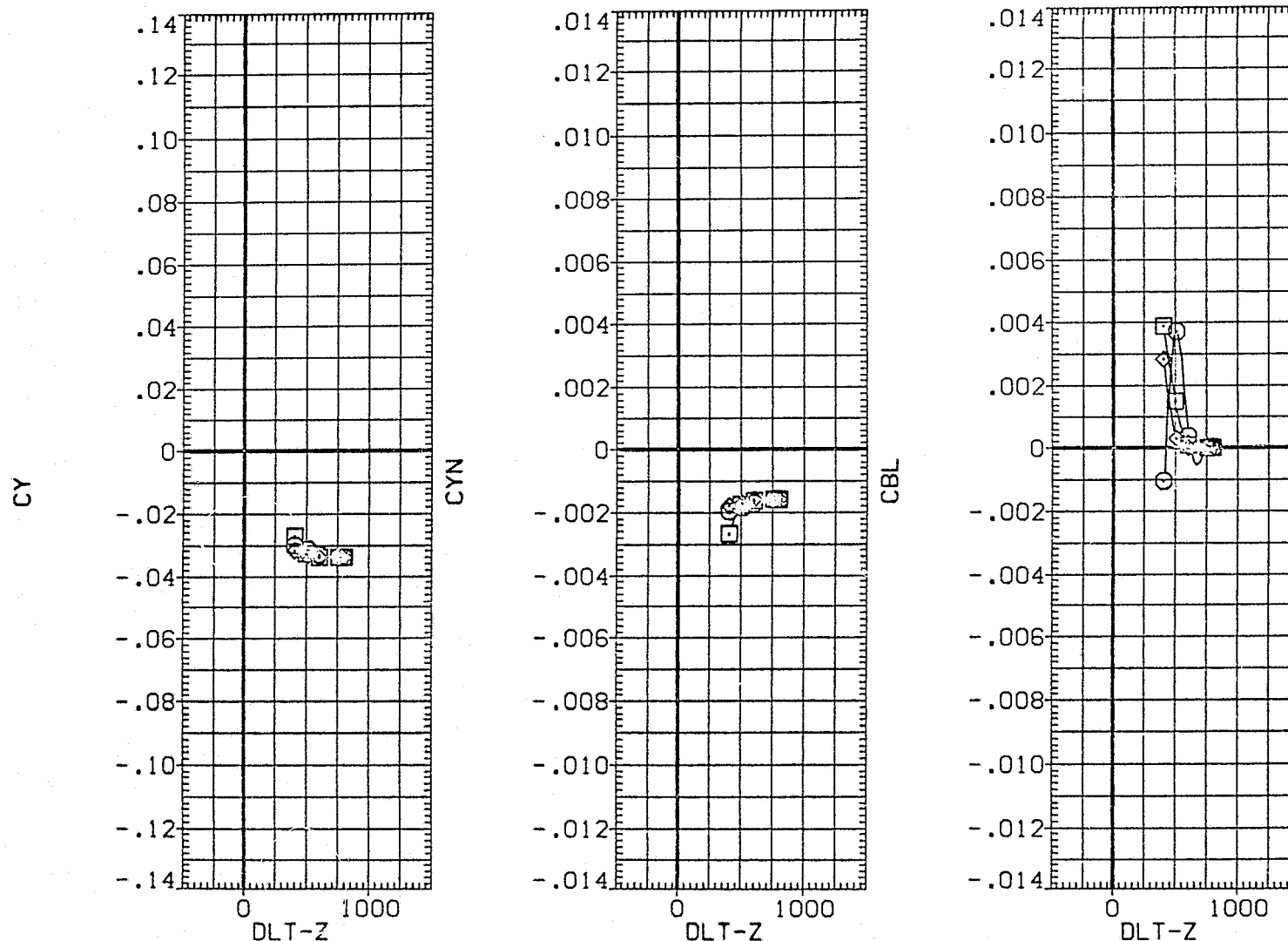


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR218)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.529	60.000	ALPHA	.000
□	200.550	BETA	3.000	DLTALF -20.000
◇	400.540	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

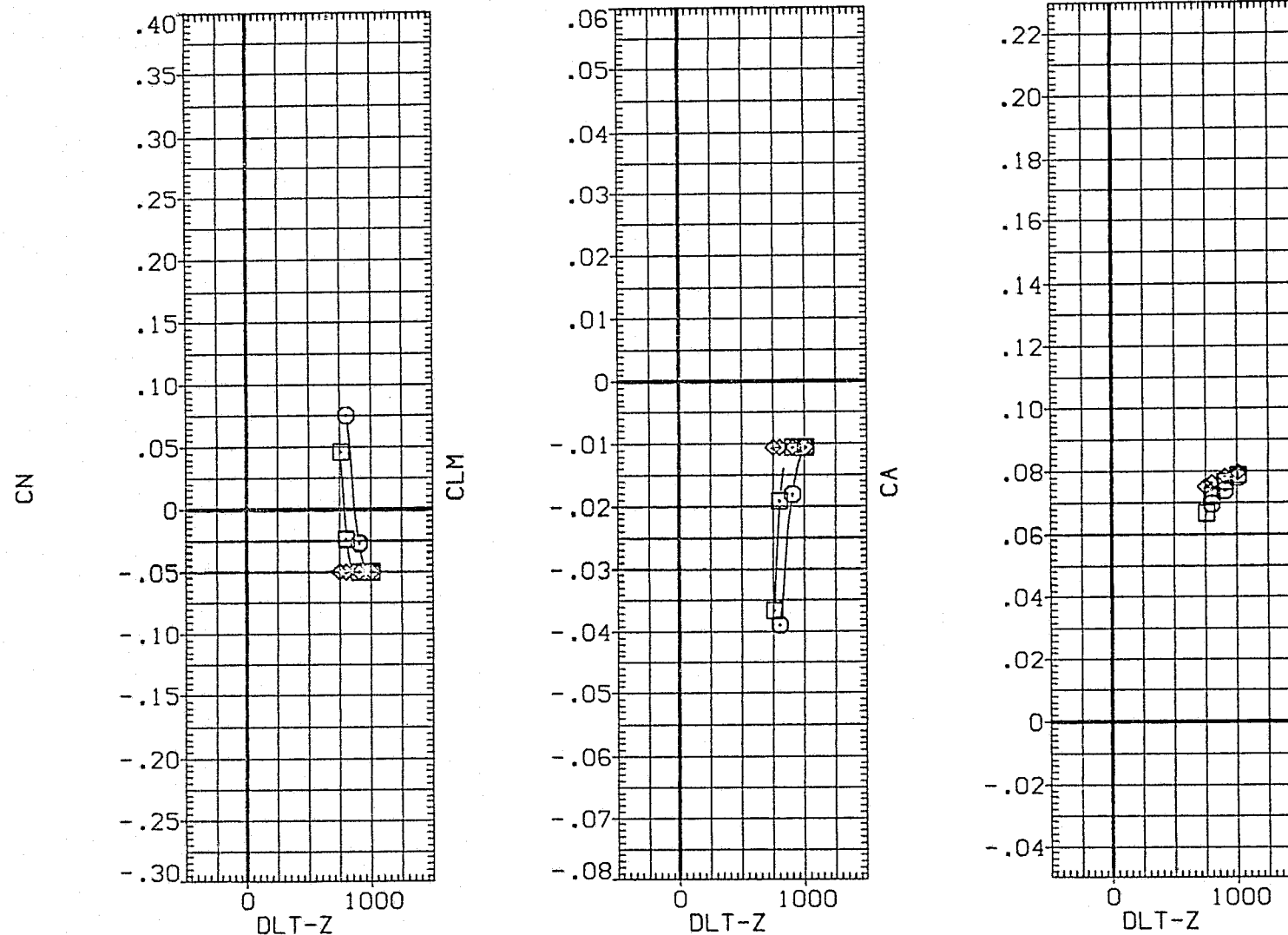


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR218)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.529	BETA	60.000	ALPHA .000
□	200.550	DLTBT	3.000	DLTALF -20.000
◇	400.540	AILRON	3.000	MACH 5.930
		GRID	.000	ELEVON .000
			3.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
YMRP	1089.6000 IN. X0
ZMRP	.0000 IN. Y0
SCALE	375.0000 IN. Z0
	.0100

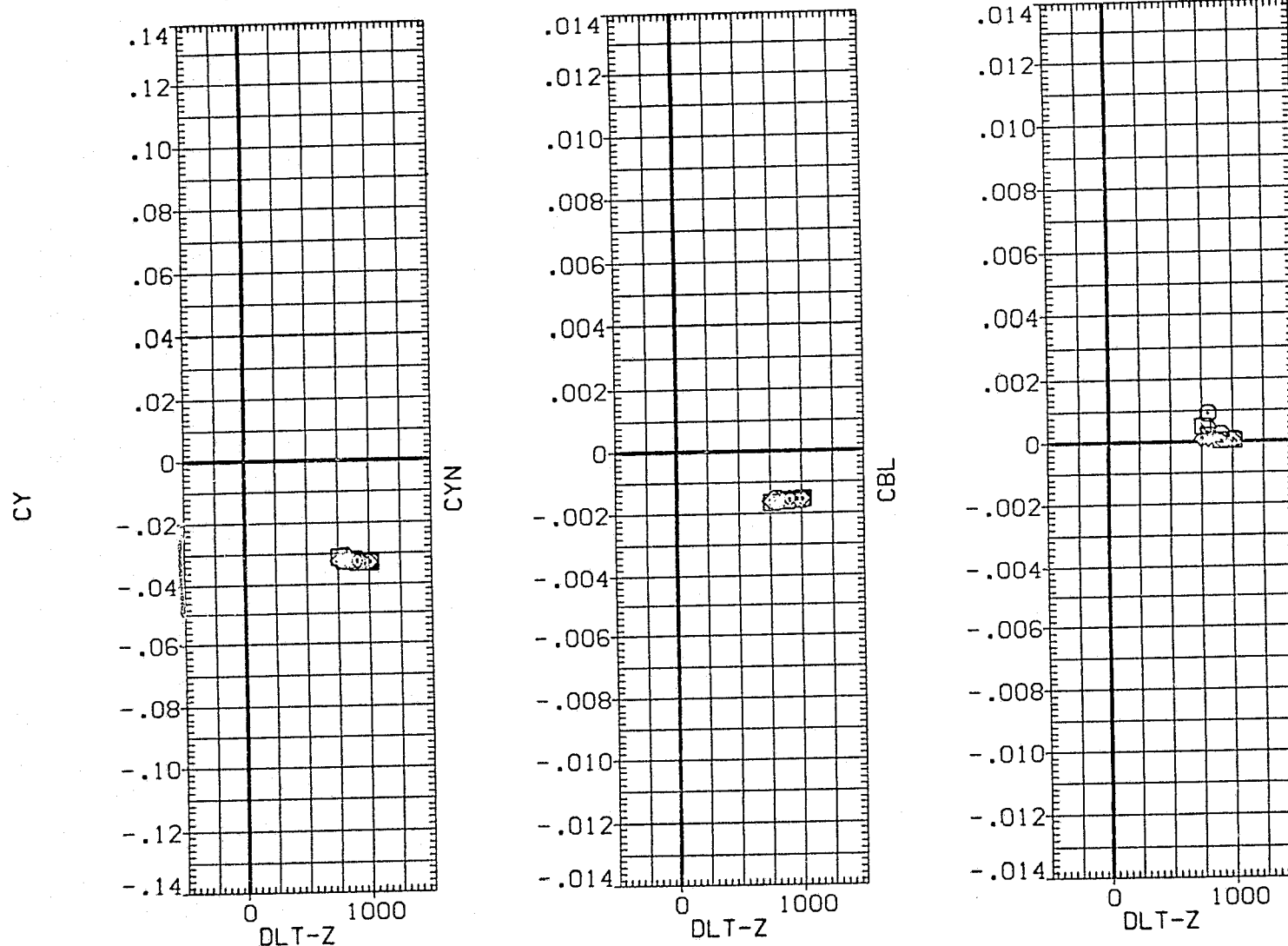


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR219)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.603	60.000	ALPHA	5.000
□	200.600	.000	DLTALF	.000
◇	400.510	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. XO
YM RP	.0000	IN. YO
ZM RP	375.0000	IN. ZO
SCALE	.0100	

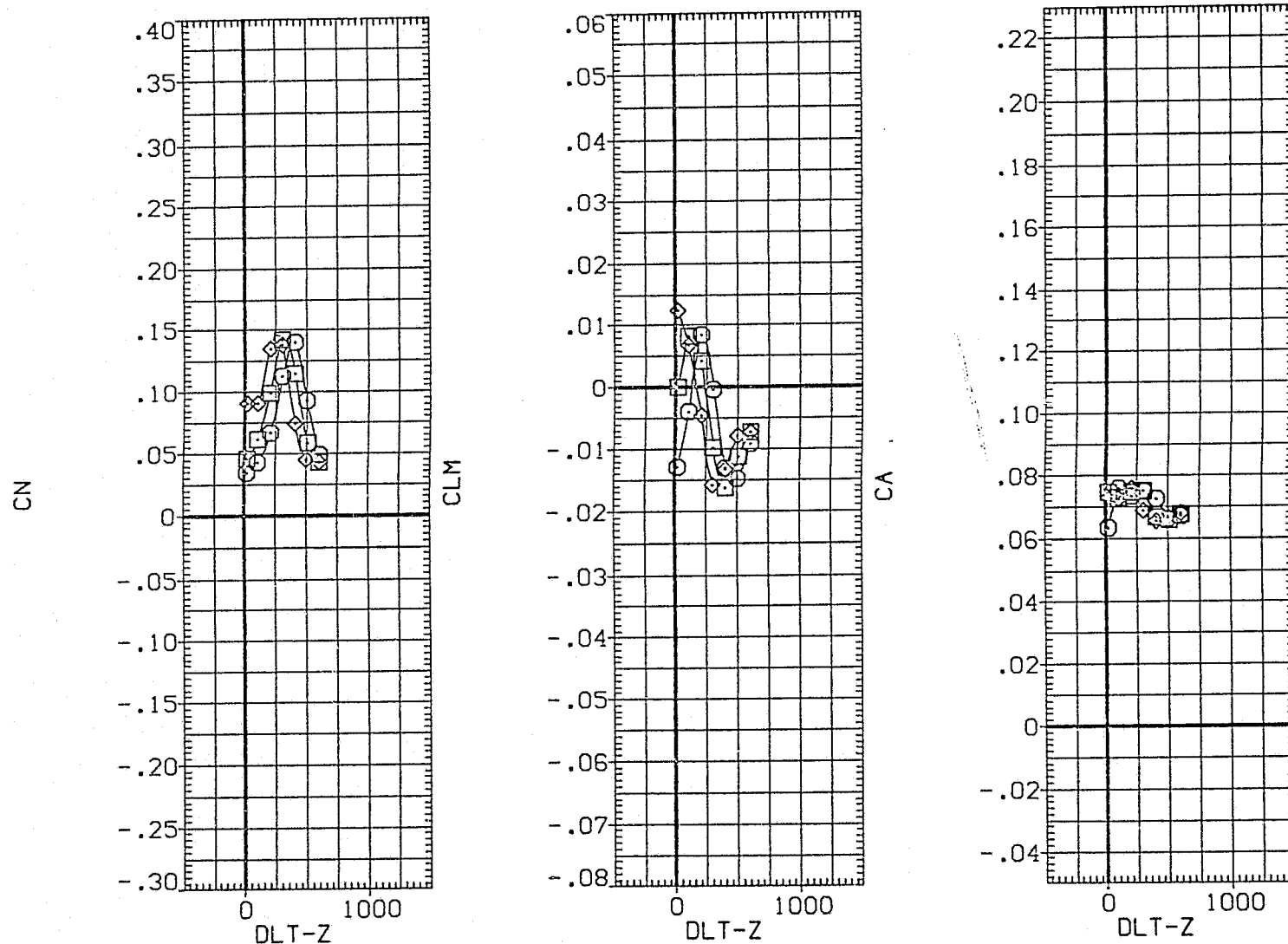


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR219)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.603	60.000	ALPHA 5.000
□	200.600	BETA .000	DLTALF .000
◇	400.510	DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XC
YMRF	.0000	IN. YO
ZMRF	375.0000	IN. ZO
SCALE	.0100	

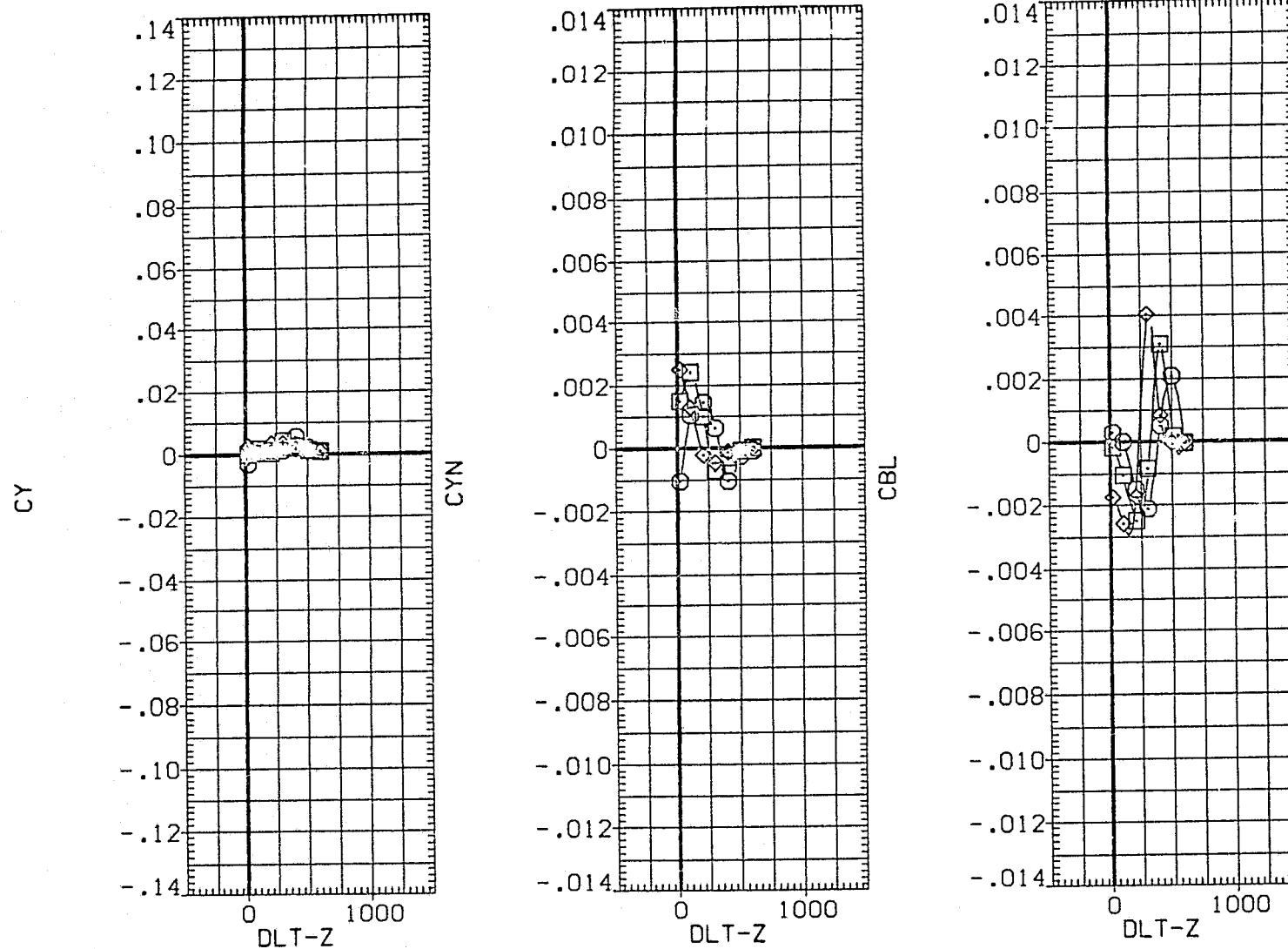


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR220)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.445	60.000	ALPHA	5.000
□	200.490	.000	DLTALF	-10.000
◇	400.510	.000	MACH	5.930
		.000	ELEVON	.000
		5.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

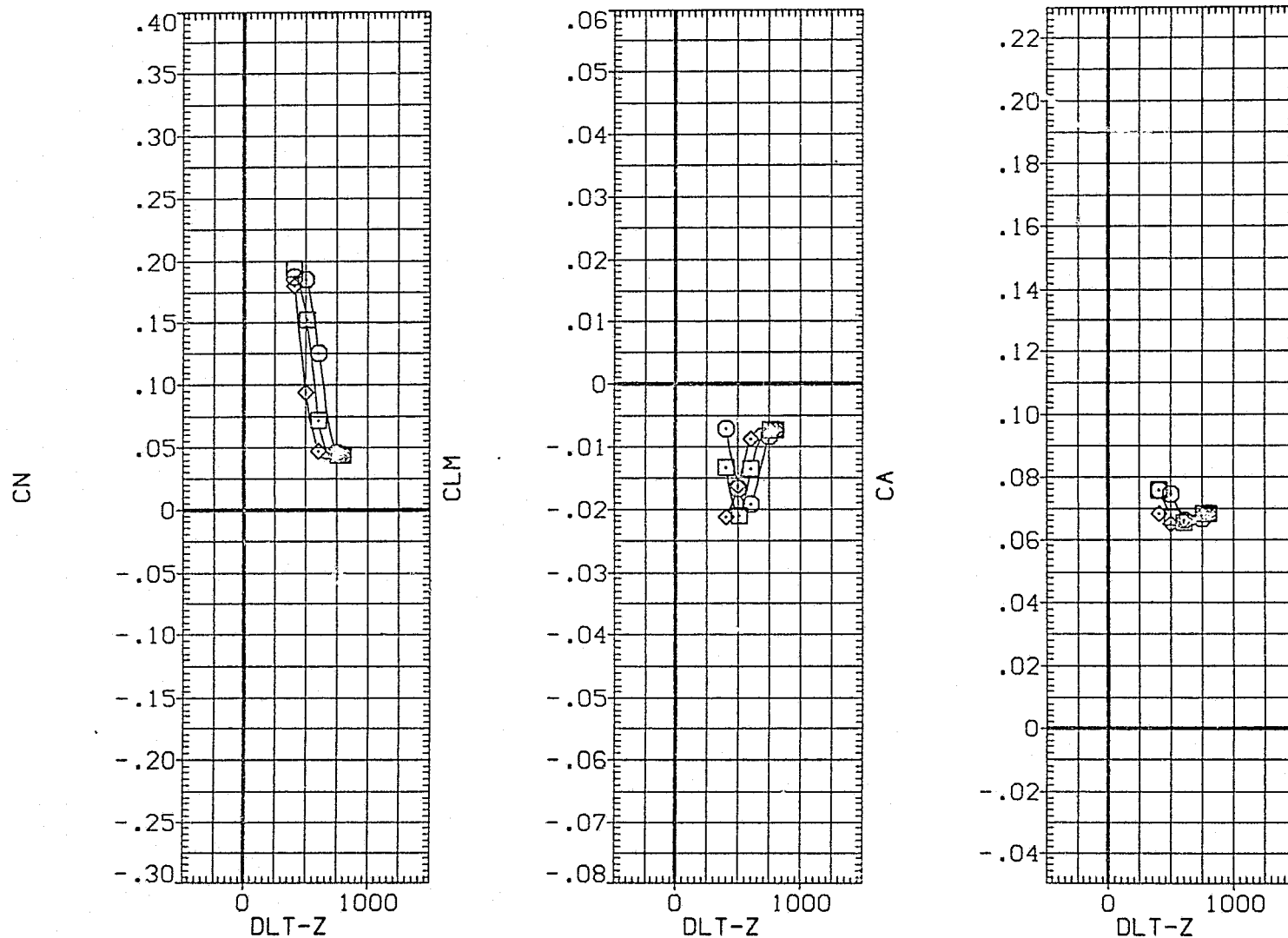


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR220)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
◇	.445	60.000	ALPHA	5.000
□	200.490	.000	DLTALF	-10.000
○	400.510	.000	MACH	5.930
		.000	ELEVON	.000
		5.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

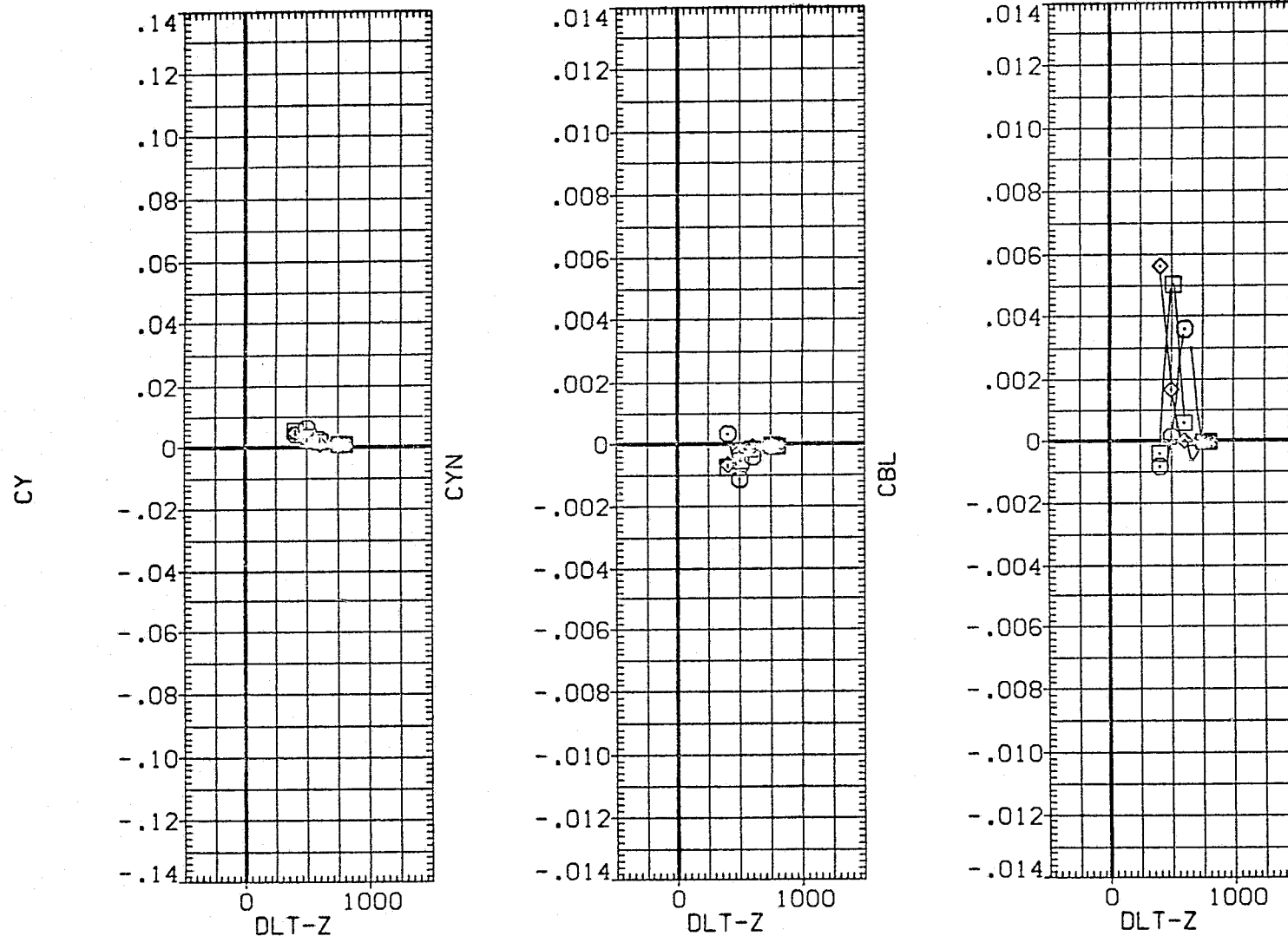


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)



AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR222)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.430	60.000	5.000	-20.000	5.930	.000
□	200.440	.000				
◇	400.480	.000				
	DLTBT	.000				
	ATLRON	.000				
	GRID	5.000				

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

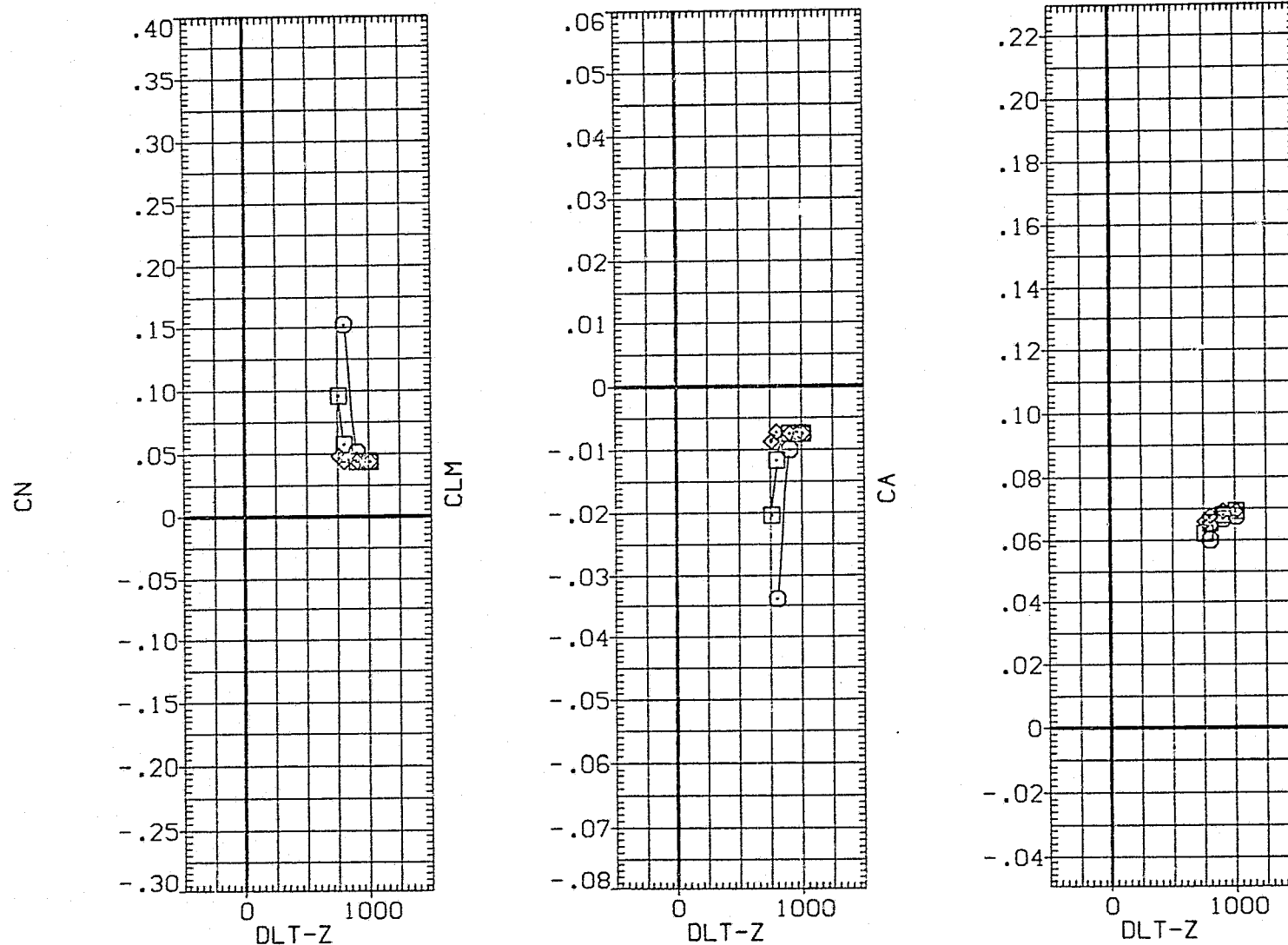


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR222)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.430	60.000		5.000	
□	200.440	.000	DLTALF	-20.000	
◇	400.480	.000	MACH	5.930	
		.000	ELEVON	.000	
		GRID	5.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

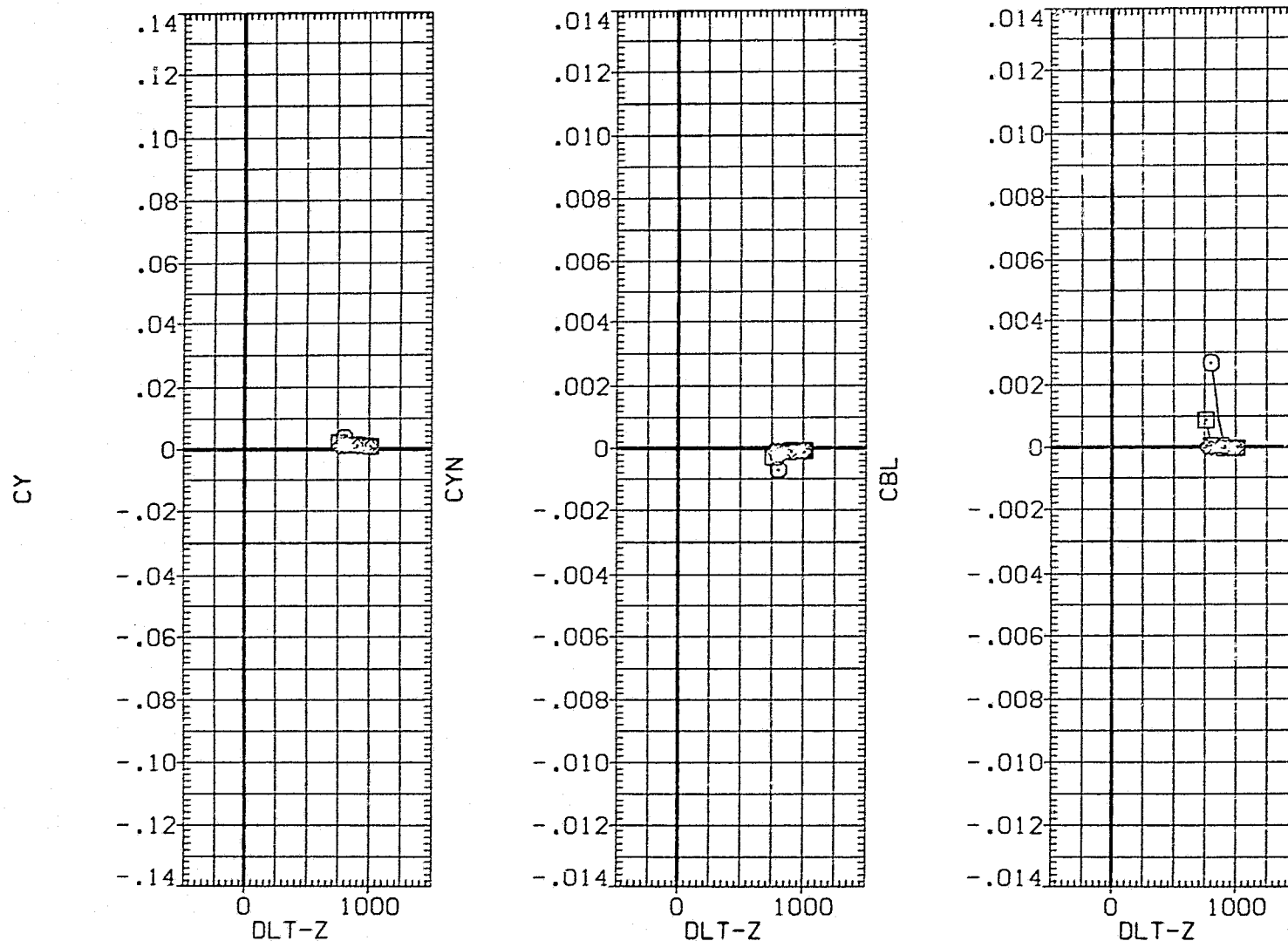


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR223)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.576	BETA	60.000	ALPHA
□	200.560	DLTBTA	.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			5.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

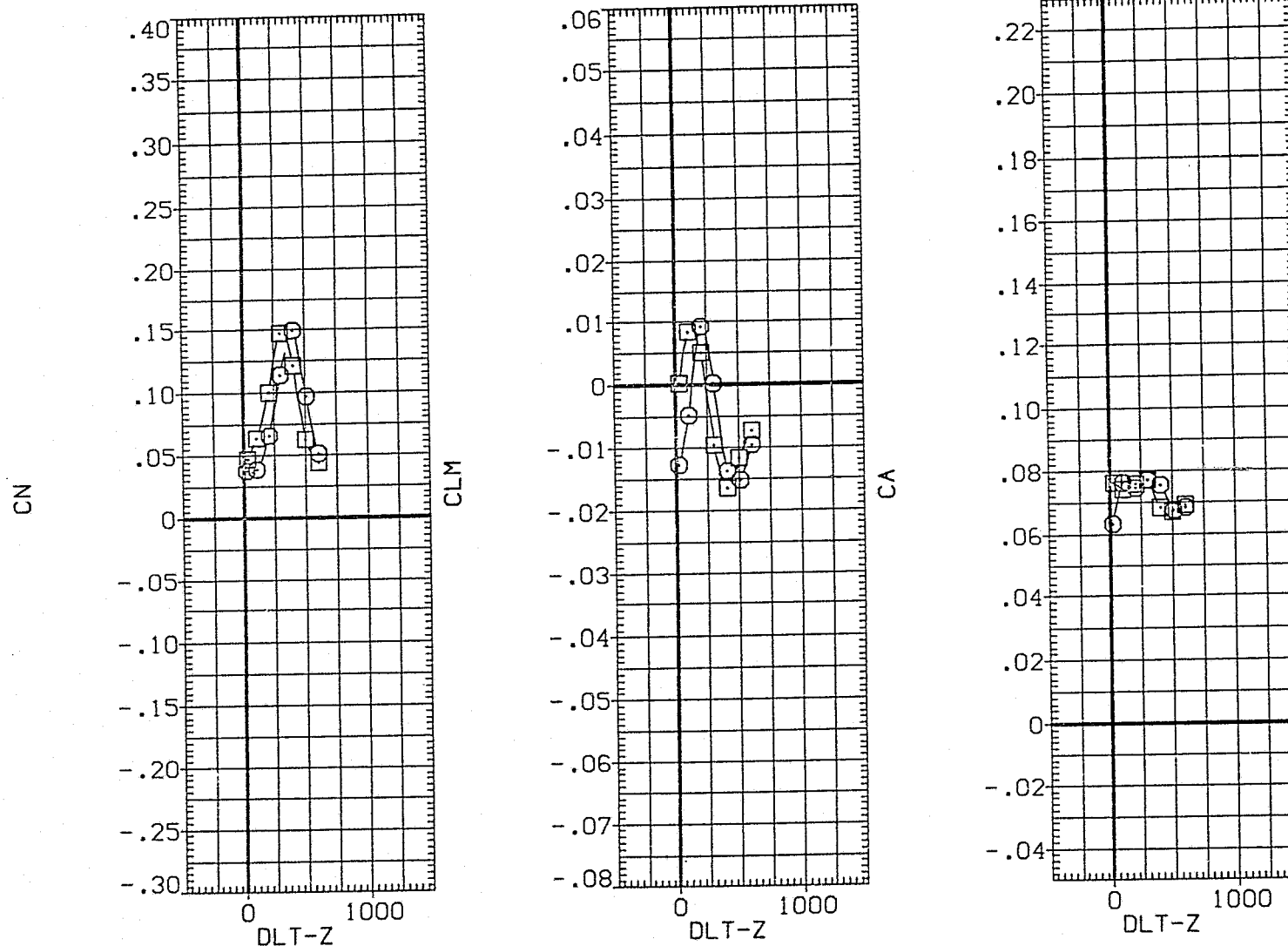


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR223)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.576	BETA	60.000	ALPHA
□	200.560	DLTBT	.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			5.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

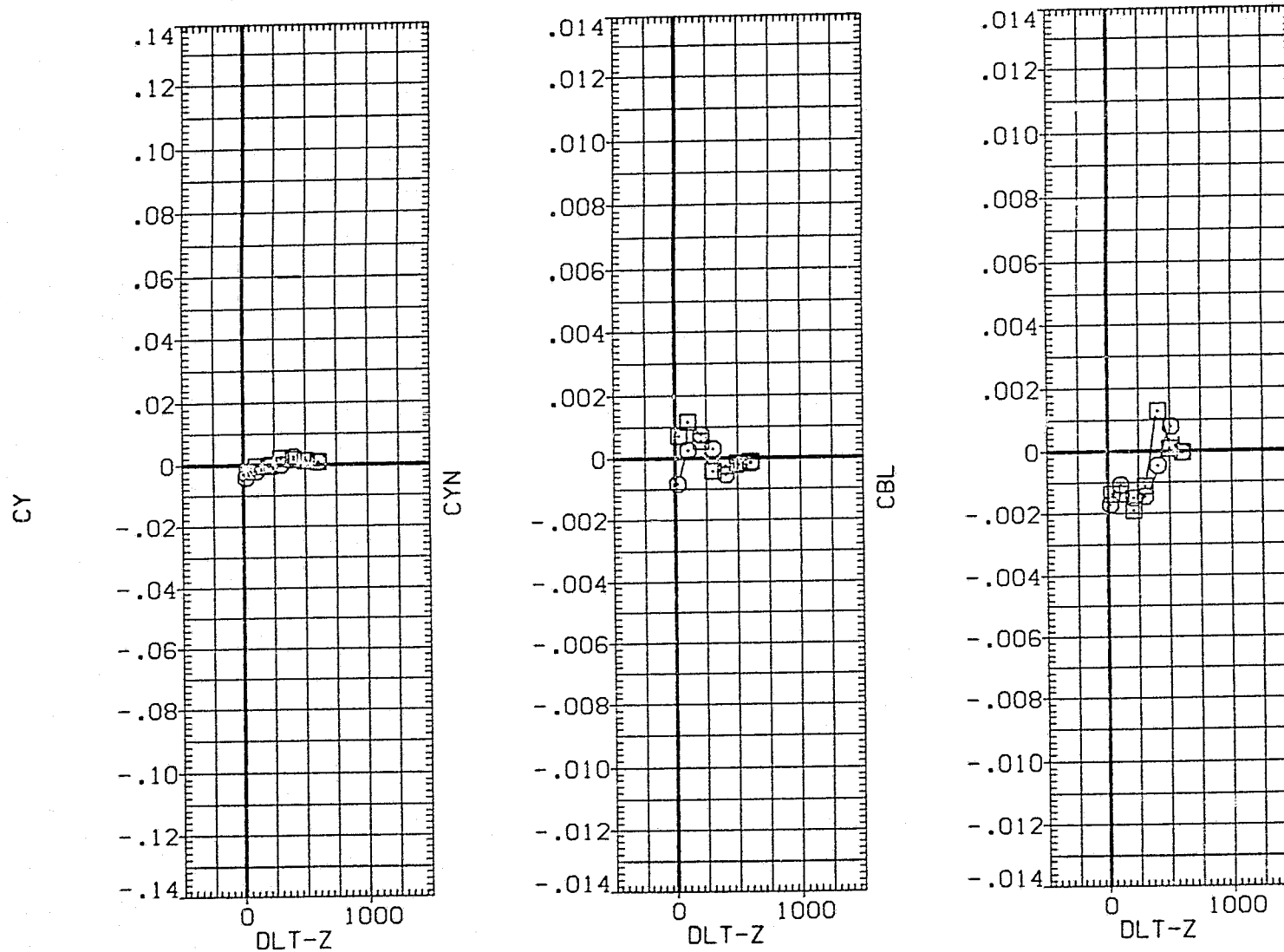


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR224)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.508	60.000	ALPHA 5.000
□	200.560	.000	DLTALF -10.000
◇	400.430	3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

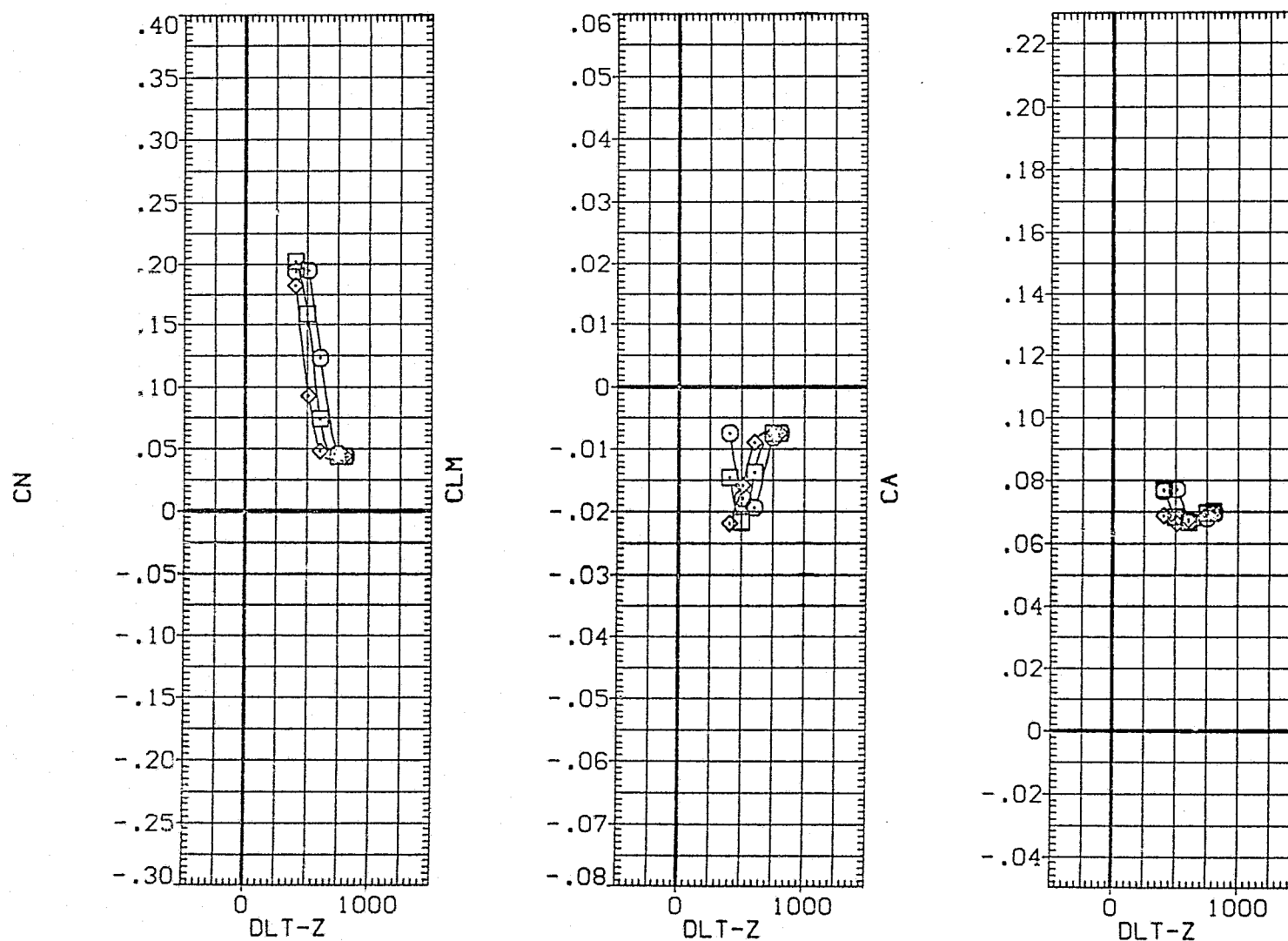


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR224)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.508	60.000	ALPHA	5.000
□	200.560	.000	DLTALF	-10.000
◇	400.430	3.000	MACH	5.930
		.000	ELEVON	.000
		5.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

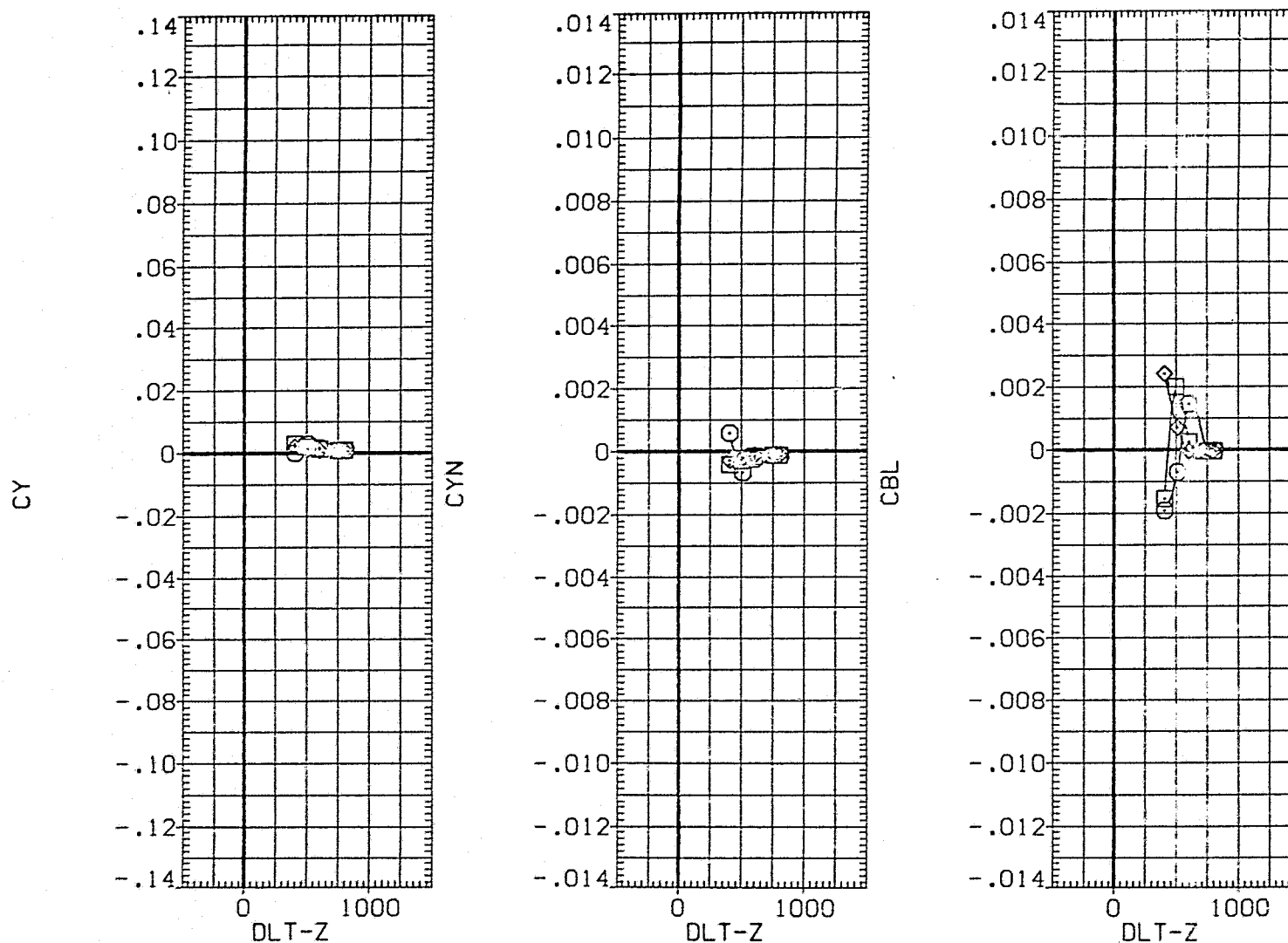


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR226)

SYMBOL
○
□
◇

DLT-X
.436
200.440
400.440

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
60.000
.000
3.000
.000
5.000

ALPHA
DLTALF
MACH
ELEVON

5.000
-20.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

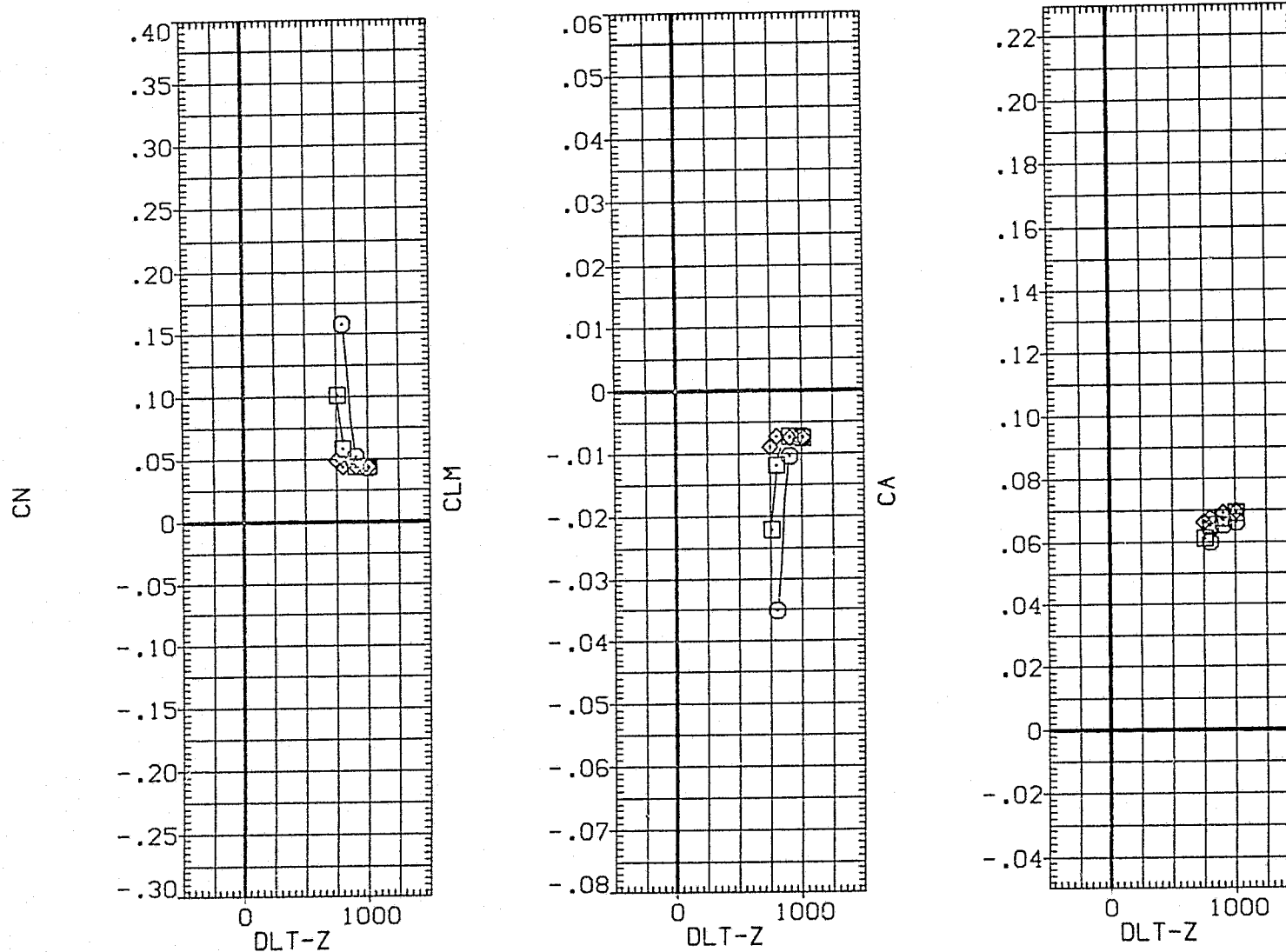


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR226)

SYMBOL	DLT-X		DLT-Y		PARAMETRIC VALUES	
	DLT-X	DLT-Y	DLT-X	DLT-Y	PARAMETRIC VALUES	PARAMETRIC VALUES
○	.436	.436	60.000	60.000	ALPHA	5.000
□	200.440	200.440	BETA	.000	DLTALF	-20.000
◇	400.440	400.440	DLTBTA	3.000	MACH	5.930
			AILRON	.000	ELEVON	.000
			GRID	5.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

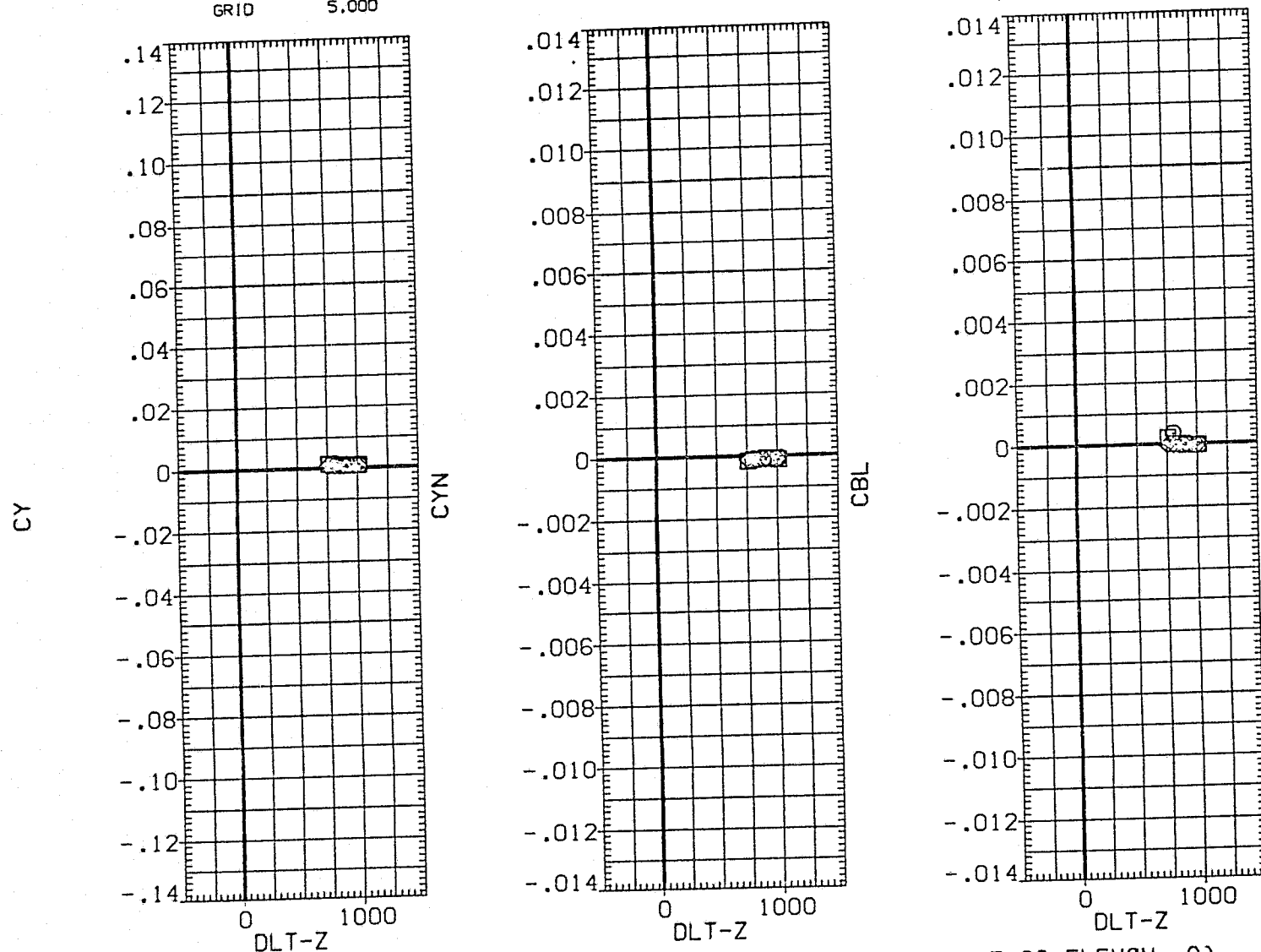


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR227)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.673	BETA	60.000	ALPHA
□	200.530	DLTBT	3.000	DLTALF
		AILRON	.000	MACH
		GRID	.000	ELEVON
			4.000	

REFERENCE INFORMATION	
SREF	2690.0000
LREF	1290.3000
BREF	1290.3000
XMRP	1089.6000
YMRP	.0000
ZMRP	375.0000
SCALE	.0100
	SQ.FT.
	IN.
	IN.
	IN. X0
	IN. Y0
	IN. Z0

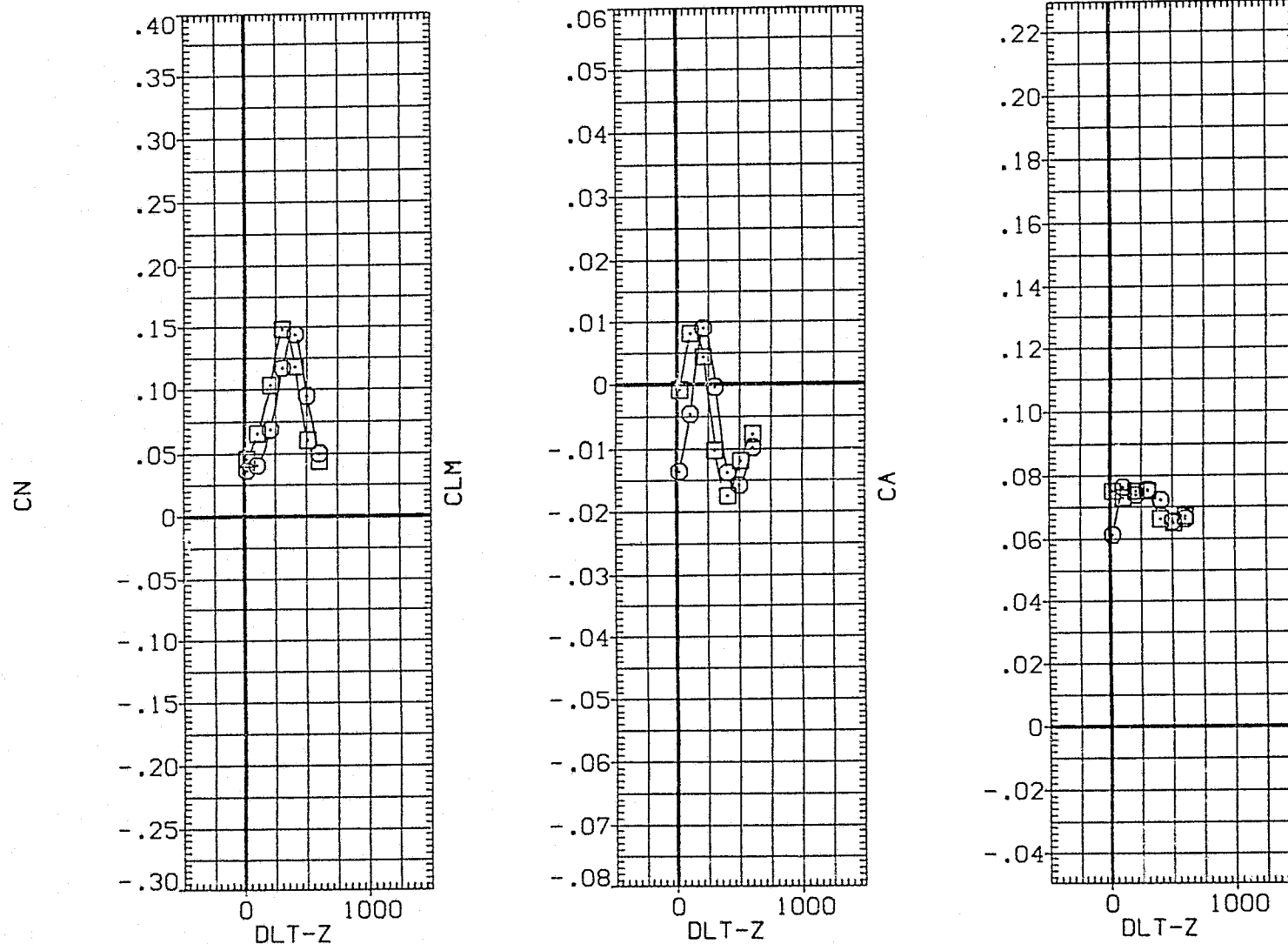


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR227)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.673	60.000	ALPHA	5.000	
□	200.530	BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	4.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

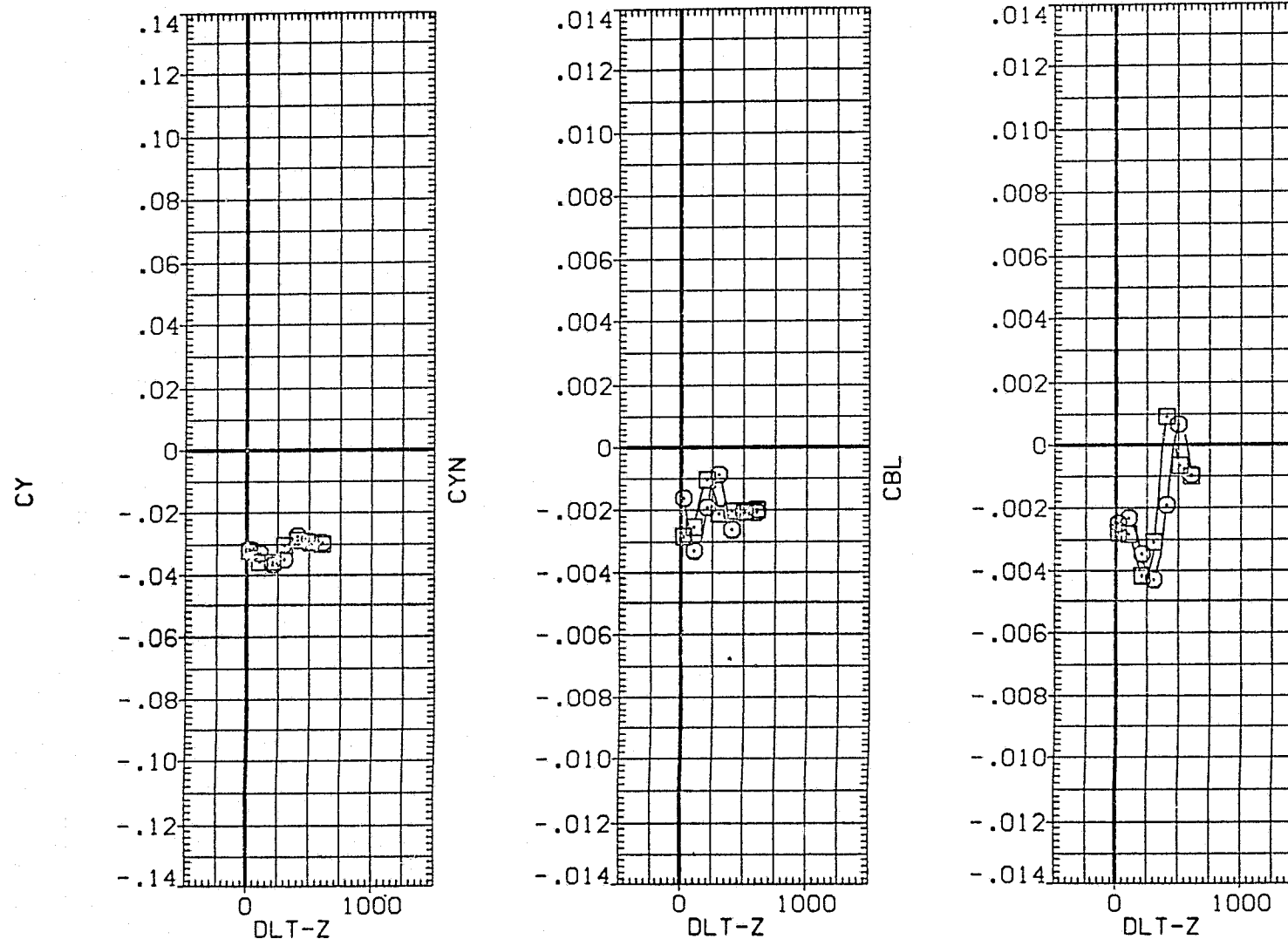


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR228)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.666	60.000	ALPHA	5.000
□	200.500	BETA	3.000	DLTALF -10.000
◇	400.570	DLTBT A	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

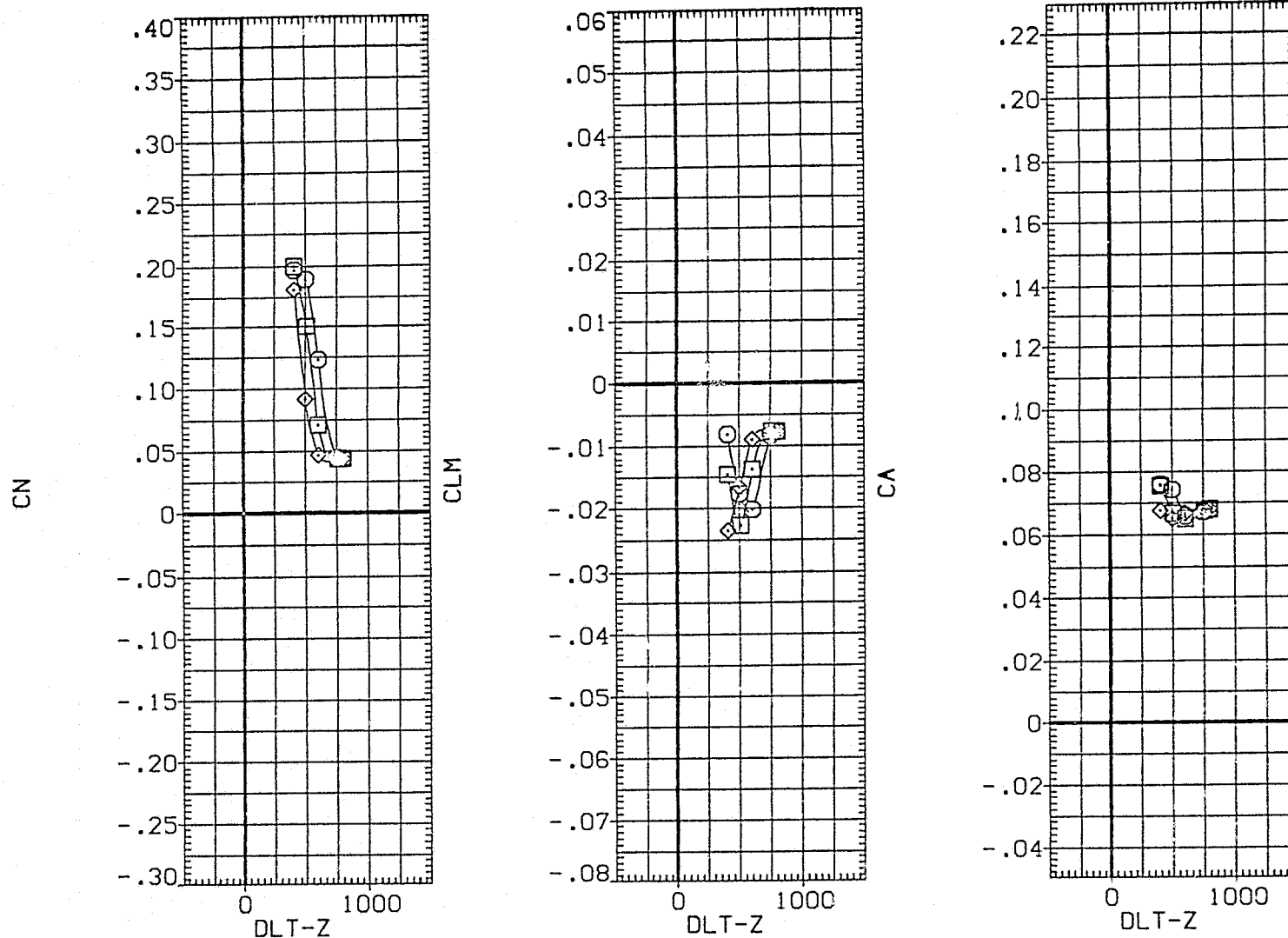


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR228)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.666	60.000	ALPHA 5.000
□	200.500	BETA 3.000	DLTALF -10.000
◇	400.570	DLTSTA .000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1099.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

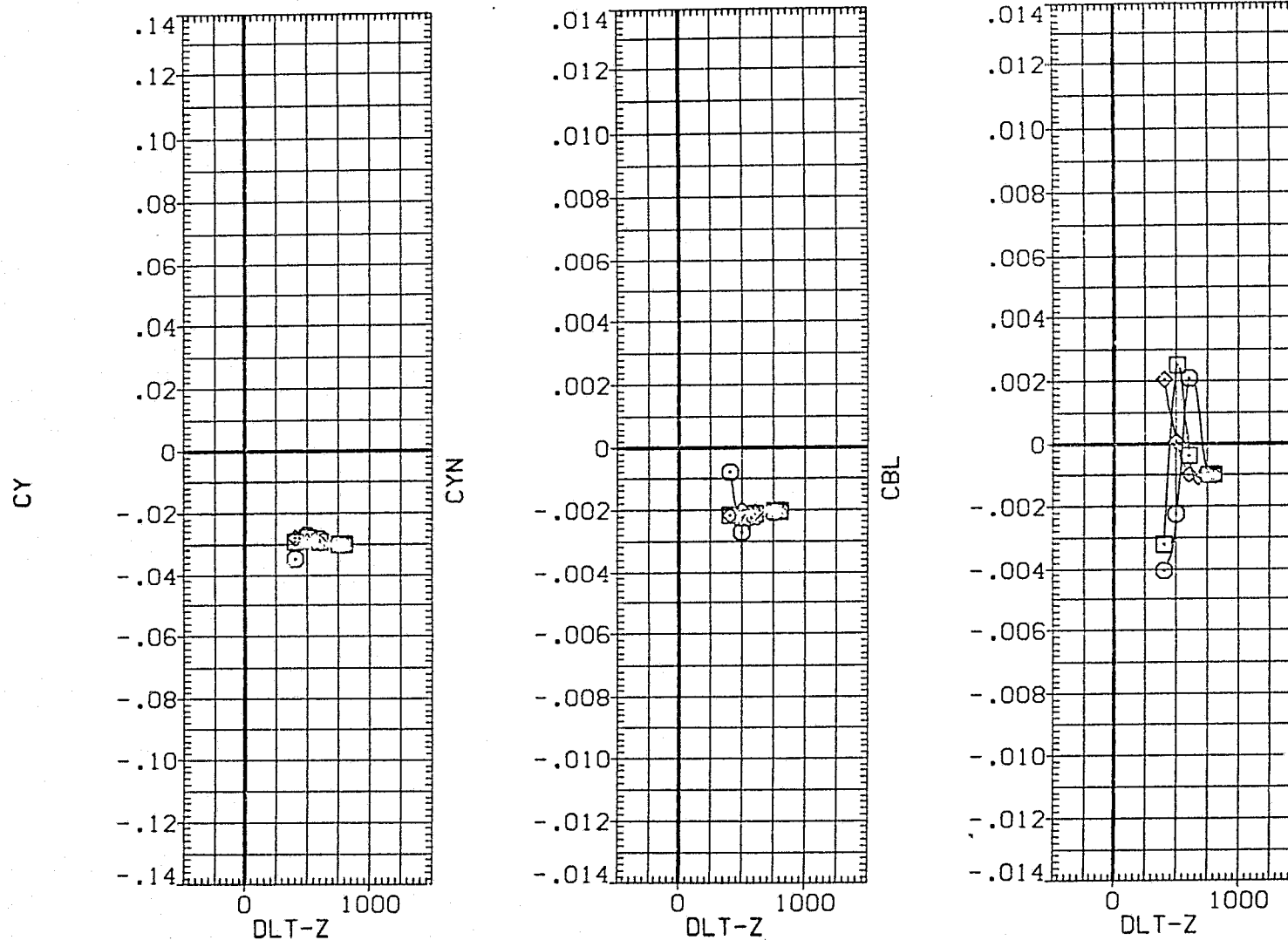


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR230)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.556	60.000	ALPHA	5.000
□	200.620	BETA	3.000	DLTALF -20.000
◇	400.480	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

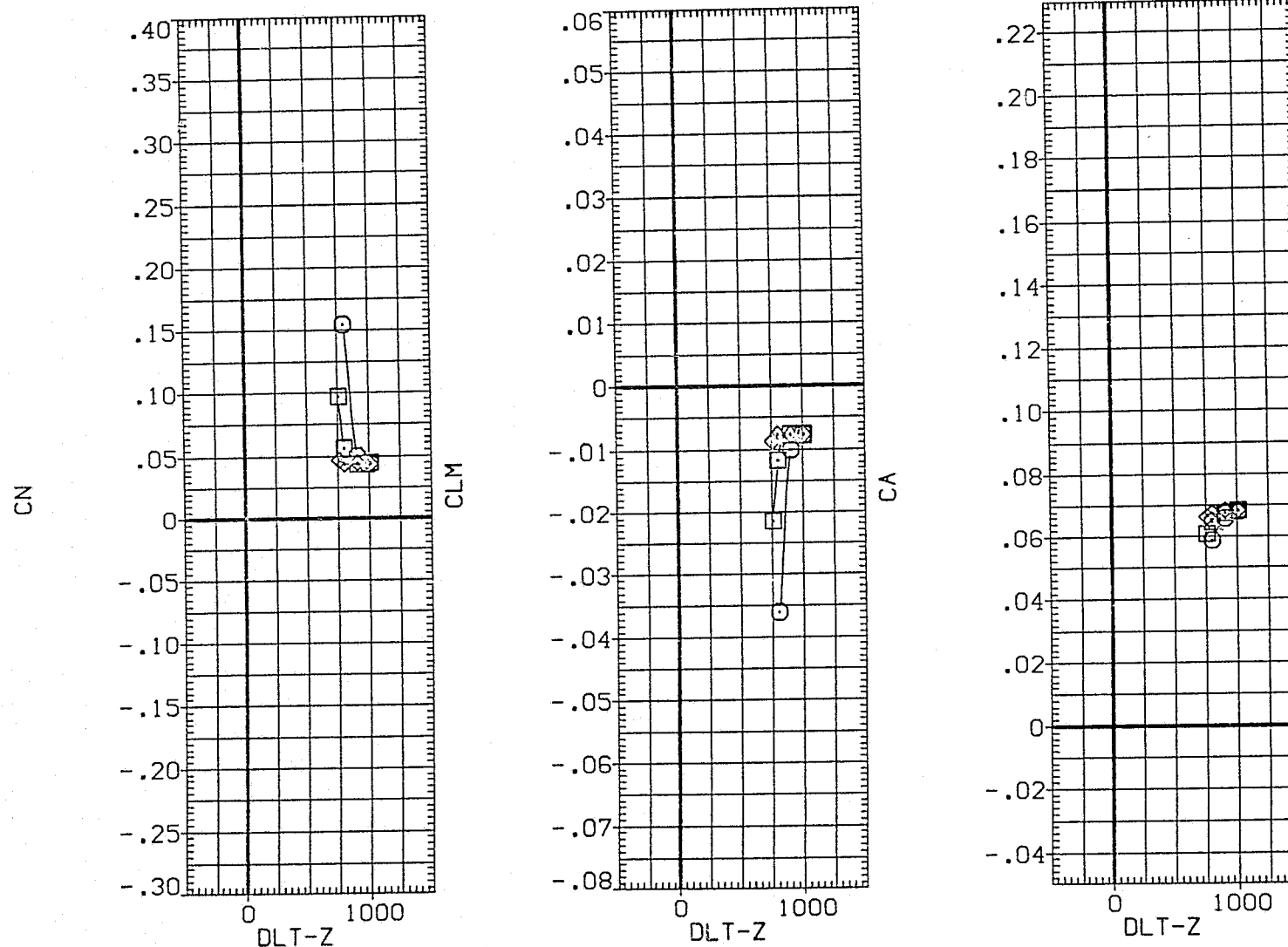
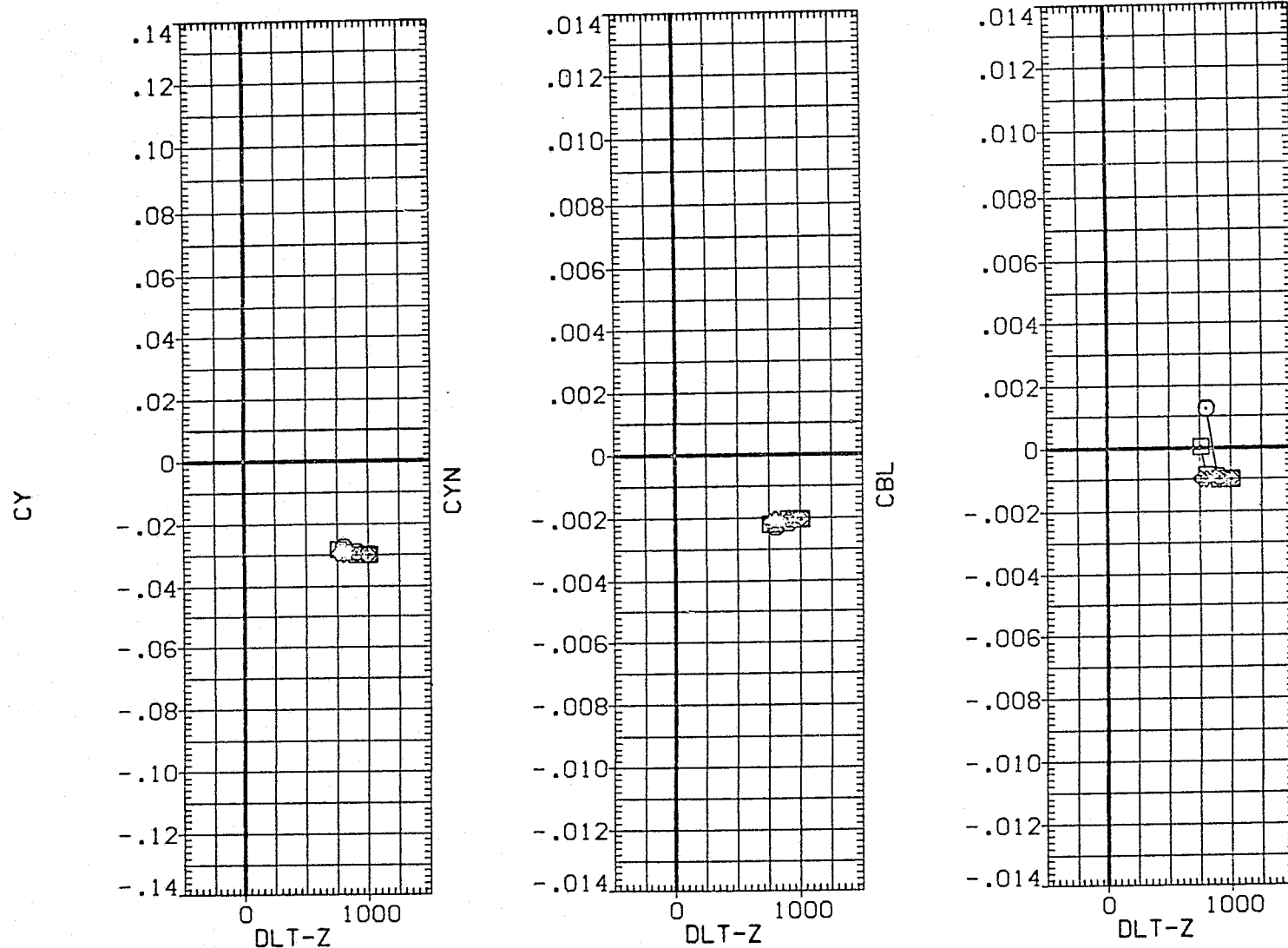


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR230)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.556	60.000	ALPHA	5.000
□	200.620	BETA	3.000	DLTALF -20.000
◇	400.480	DLTBT	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	



AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR231)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.660	60.000	ALPHA	5.000
□	200.700	3.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	.000
		4.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

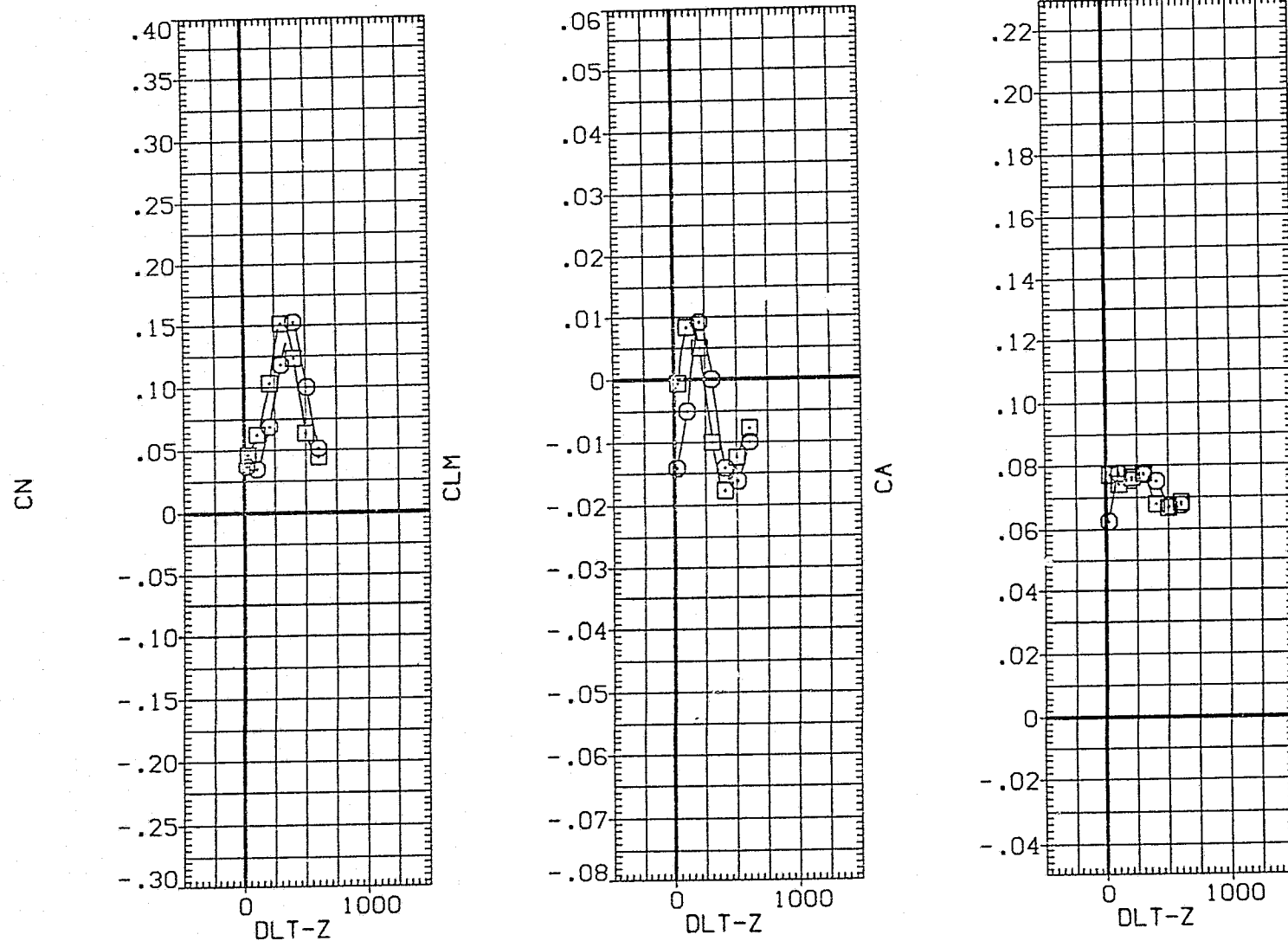


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR231)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.660		60.000	ALPHA
□	200.700		3.000	DLTALF
		BETA	3.000	MACH
		DLTBT	.000	ELEVON
		AILRON	4.000	
		GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

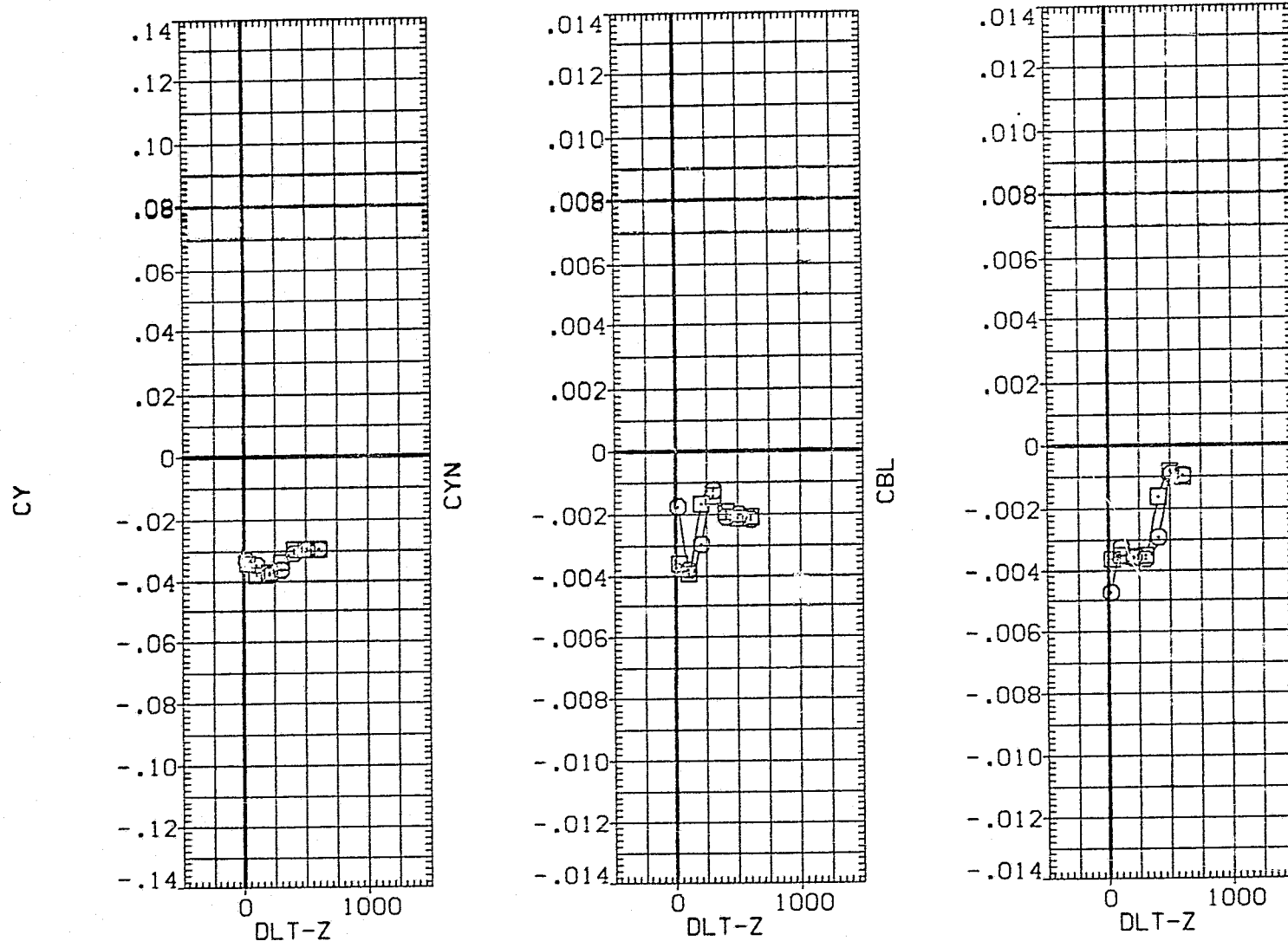


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR232)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.646	60.000	ALPHA	5.000
□	200.690	BETA	3.000	DLTALF -10.000
◇	400.600	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

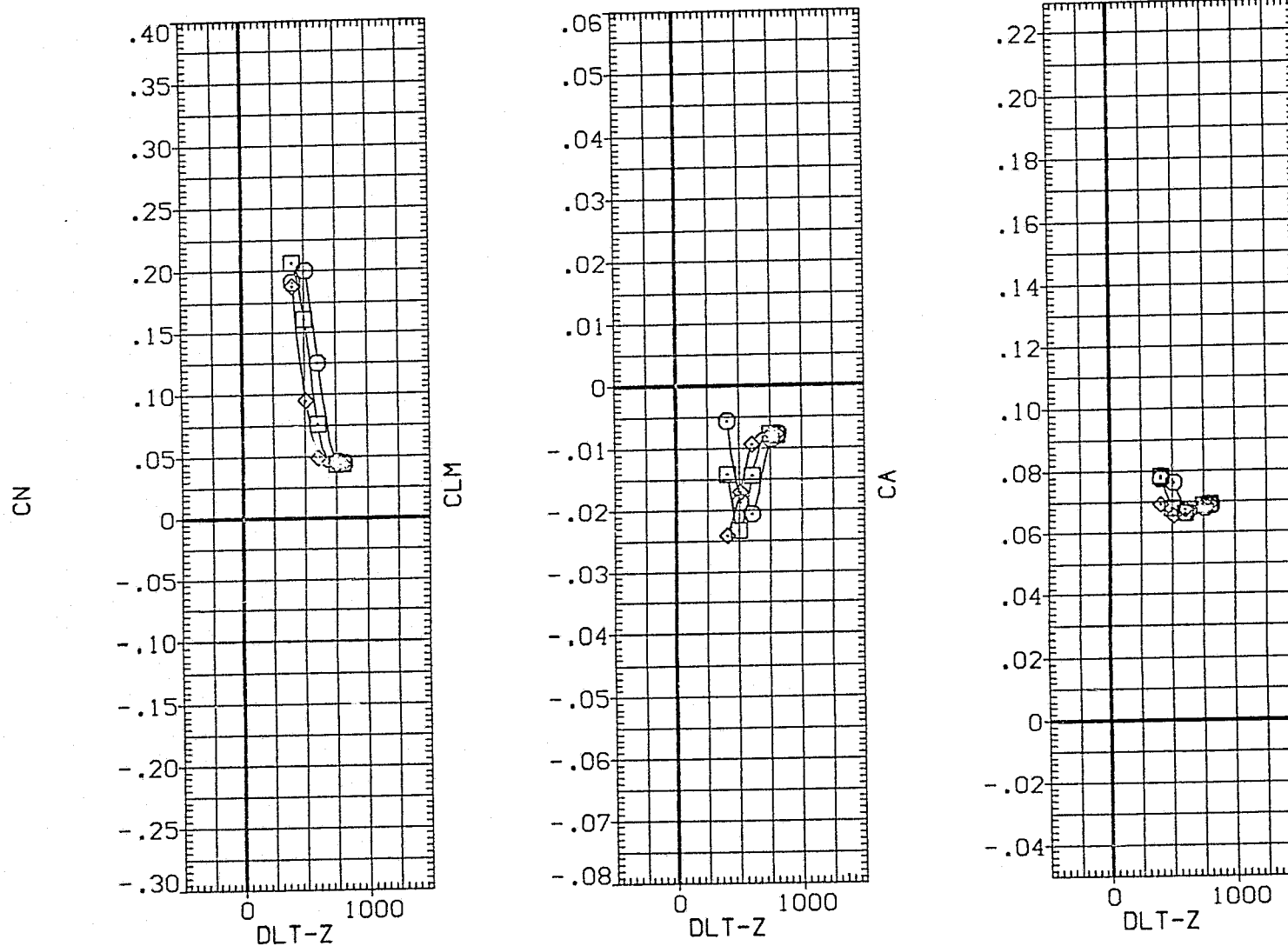


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR232)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
	○	□	60.000	ALPHA	5.000
	200.690	BETA	3.000	DLTALF	-10.000
	400.600	DLTBTA	3.000	MACH	5.930
		ATLRON	.000	ELEVON	.000
		GRID	4.000		

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

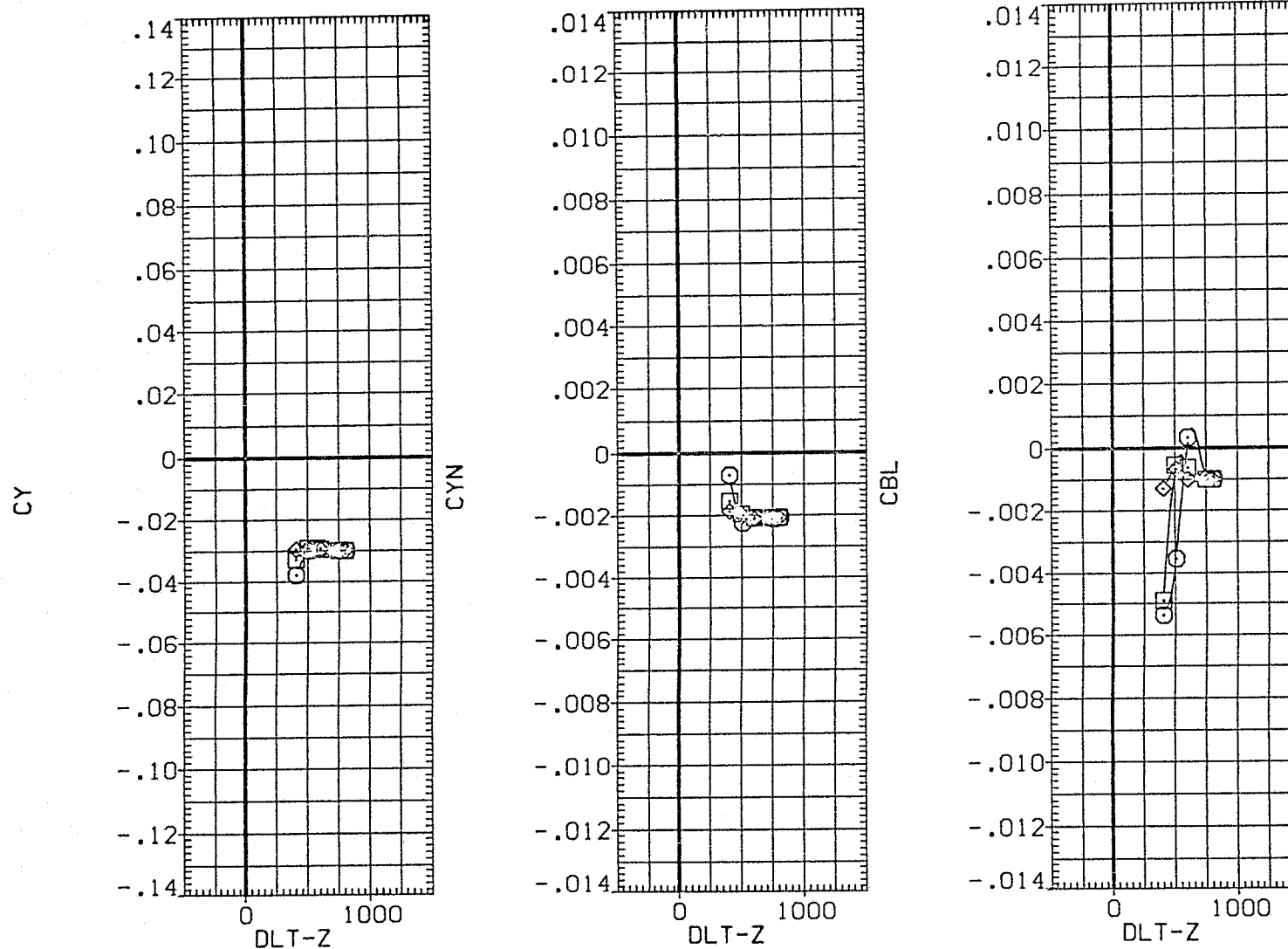


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR234)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.644	60.000	ALPHA	5.000
□	200.680	3.000	DLTALF	-20.000
◇	400.560	3.000	MACH	5.930
		.000	ELEVON	.000
		4.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

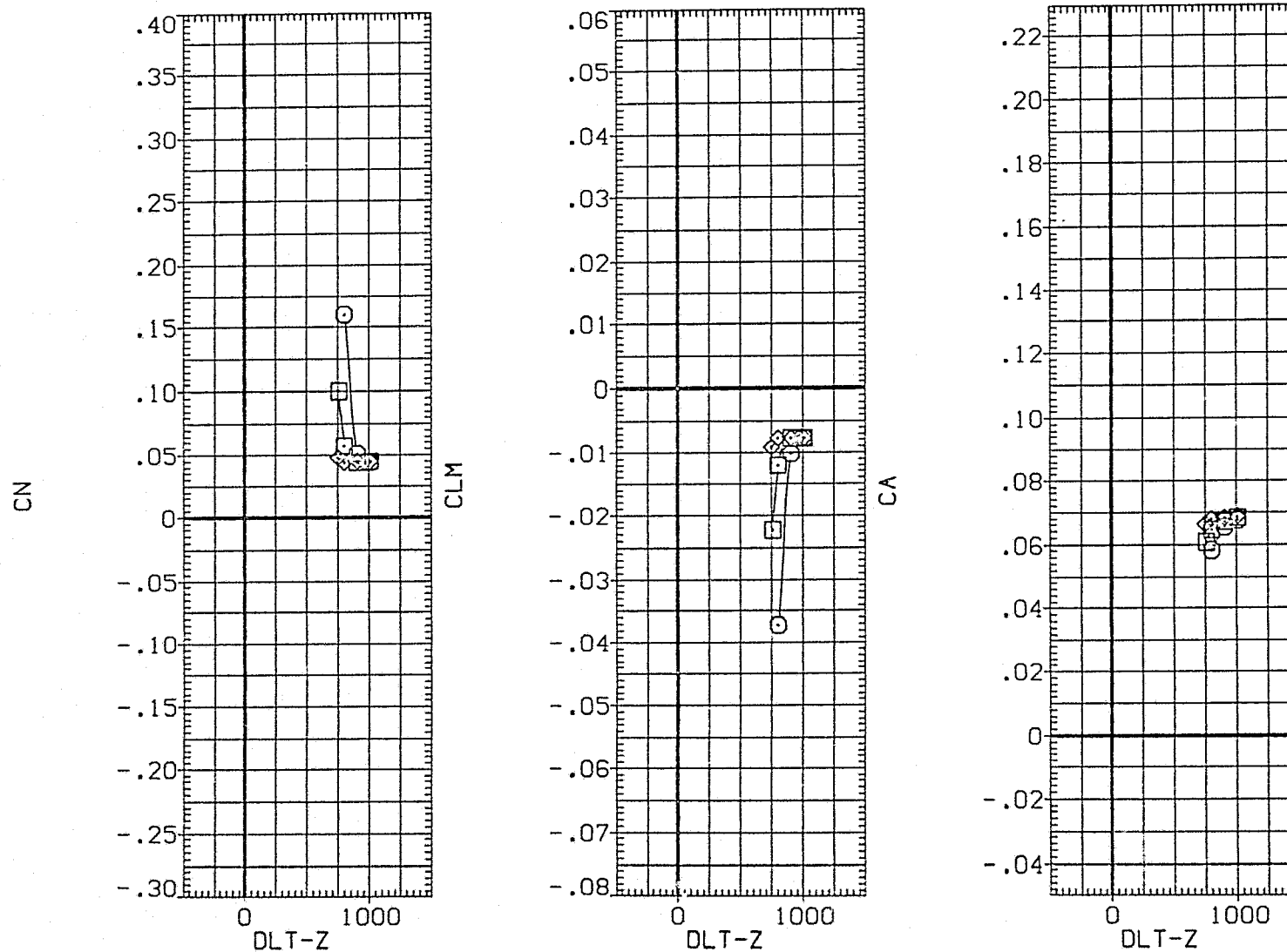


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR234)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.644	60.000	ALPHA	5.000
□	200.680	BETA	3.000	DLTALF -20.000
◇	400.560	DLTBT	3.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

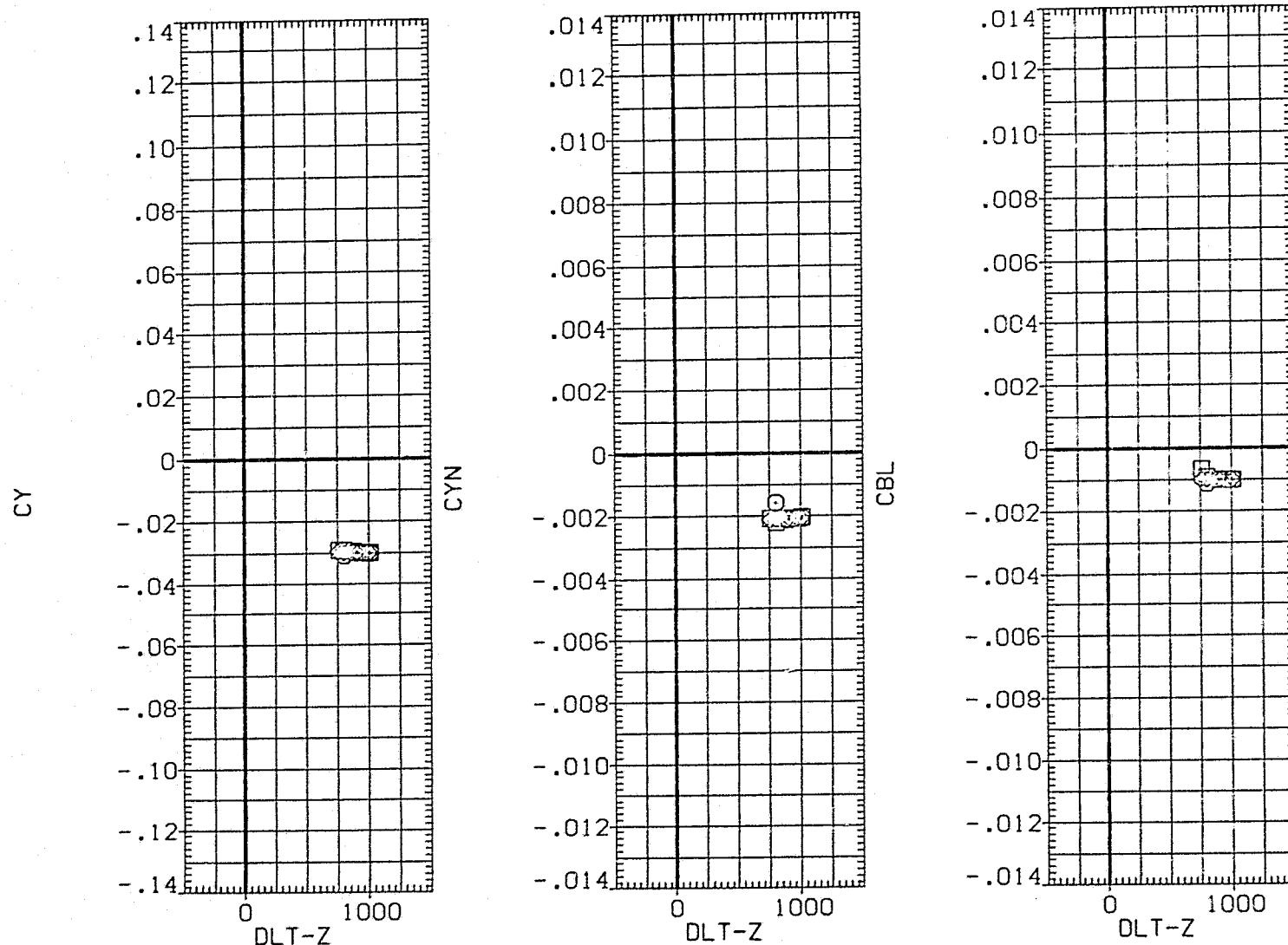


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR235)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.558	60.000	ALPHA	-5.000
□	200.500	.000	DLTALF	.000
◇	400.420	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

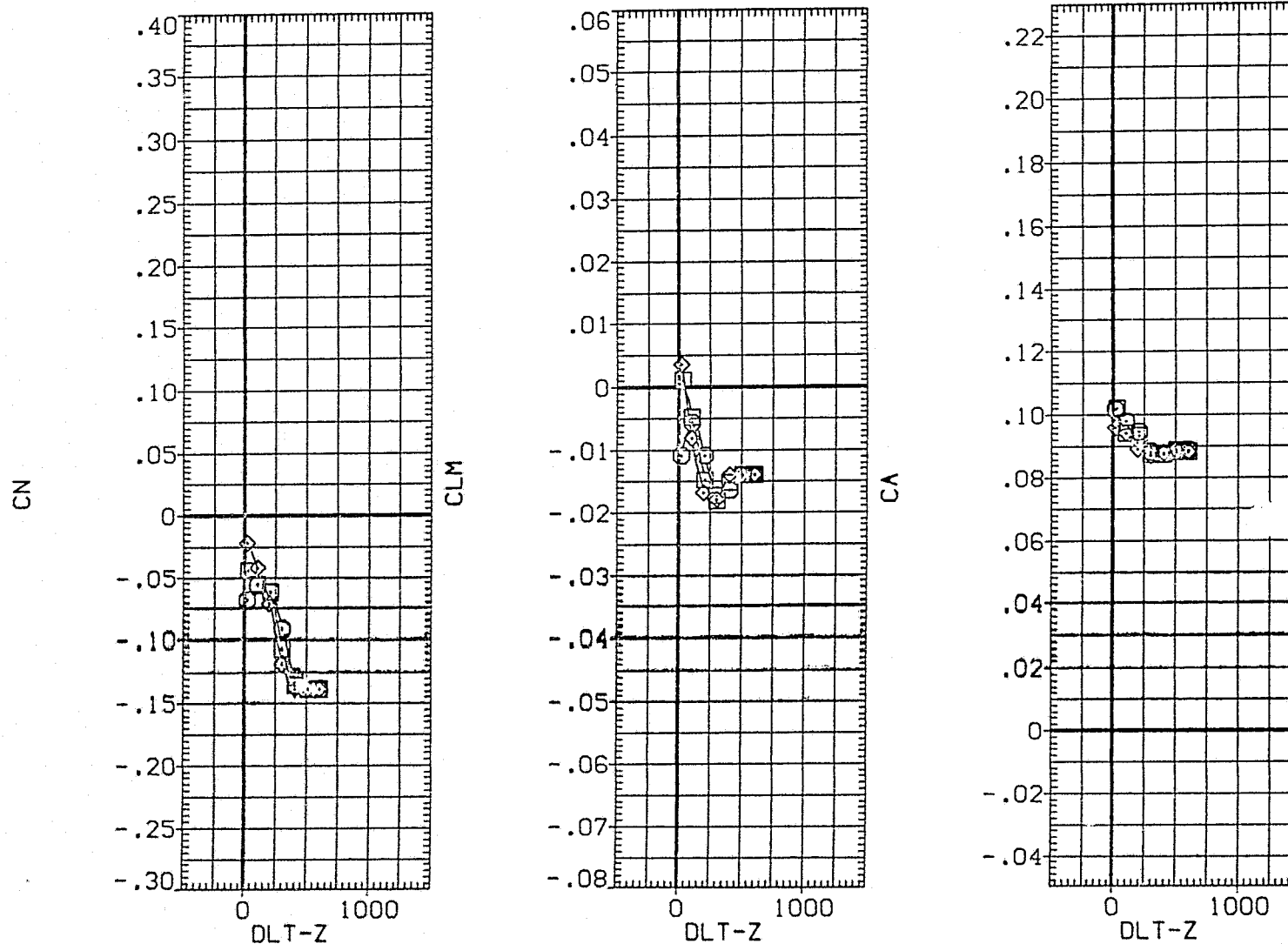


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR235)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.558	60.000	ALPHA	-5.000
□	200.500	.000	DLTALF	.000
◇	400.420	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. Z0
SCALE	.0100	

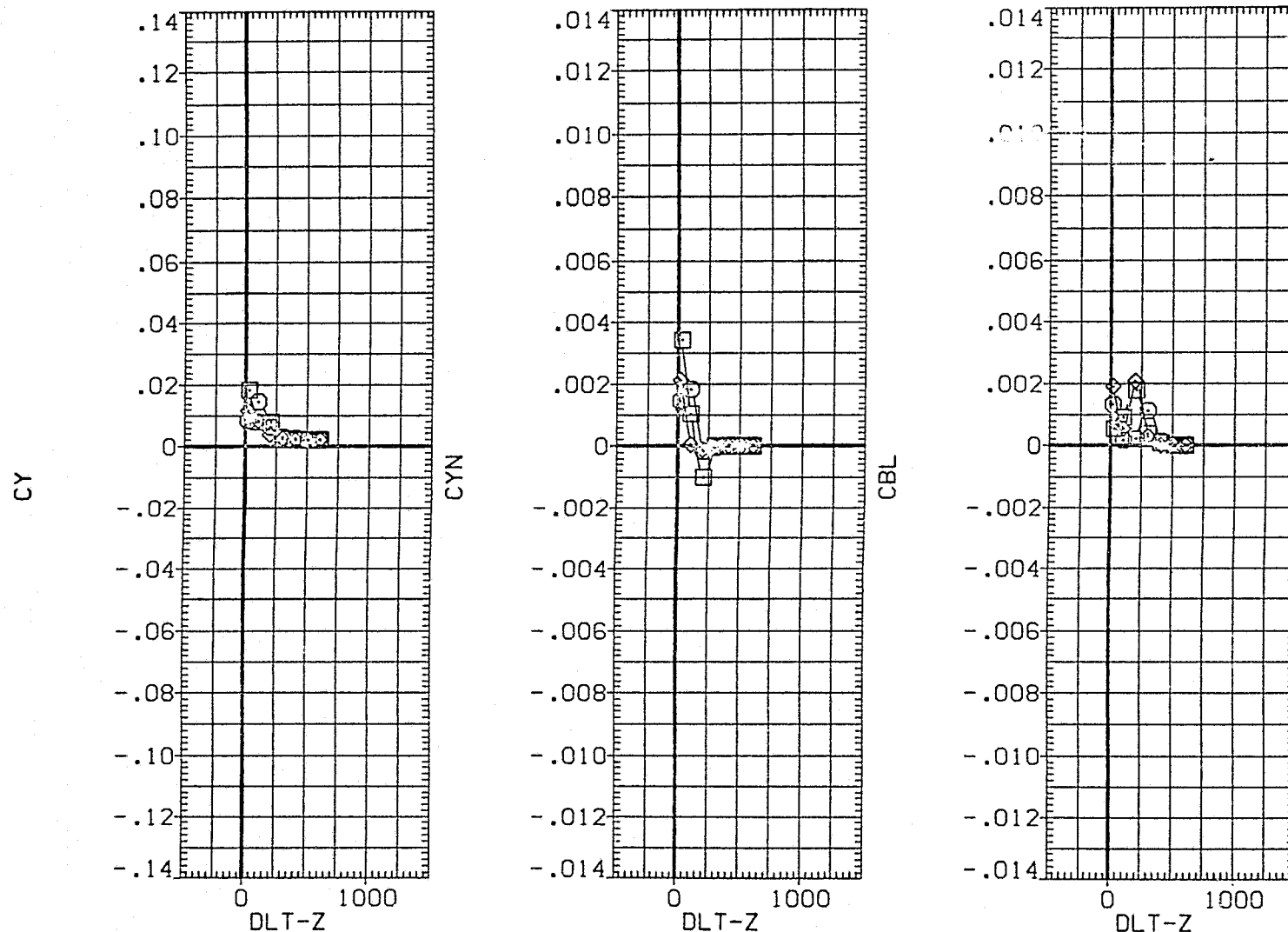


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR236)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.404		60.000	ALPHA -5.000
□	200.500	BETA	.000	DLTALF -10.000
◇	400.340	DLTBTA	.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

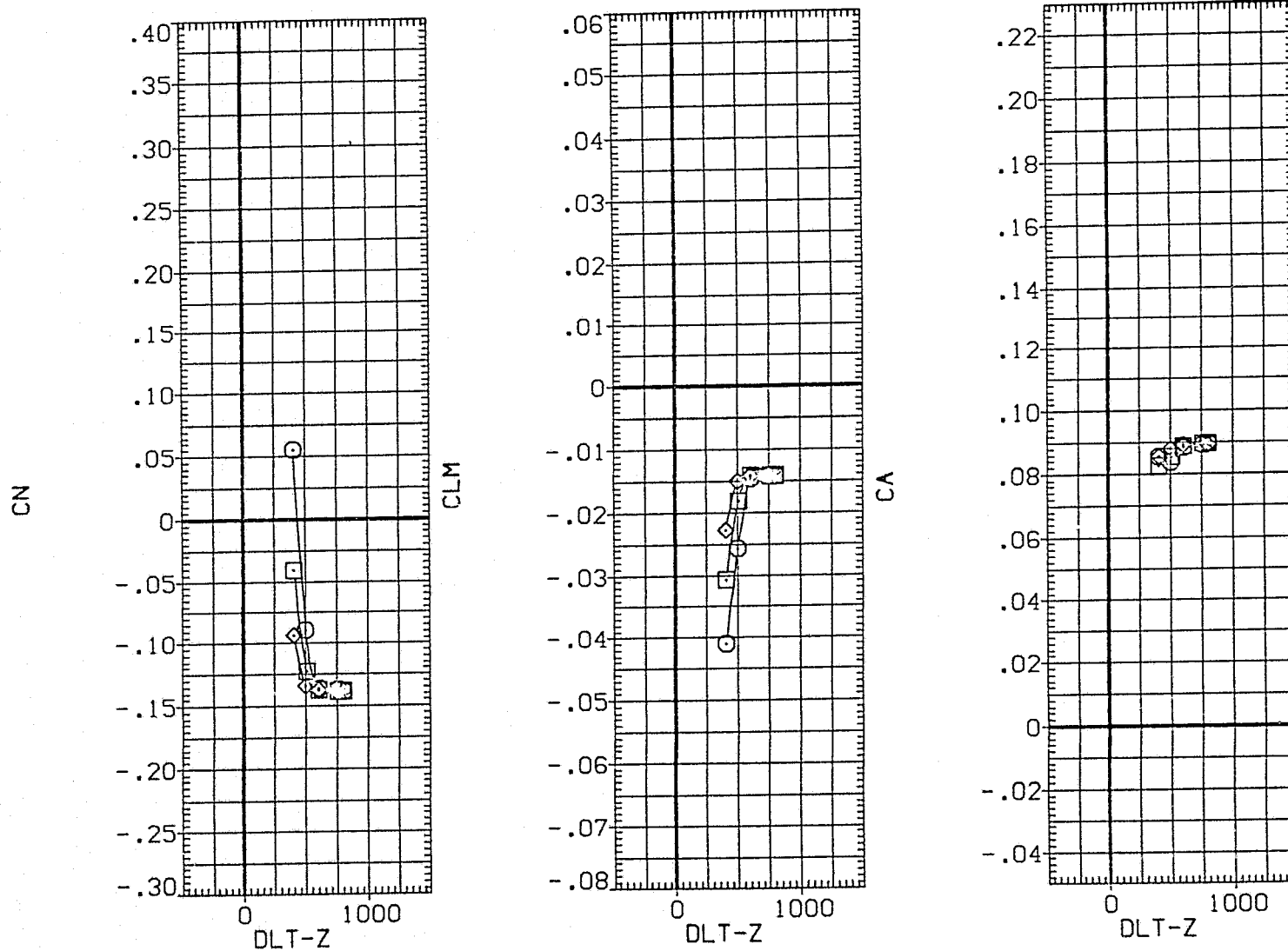


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR236)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.404	60.000	ALPHA	-5.000
□	200.500	BETA	.000	DLTALF -10.000
◇	400.340	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	6.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

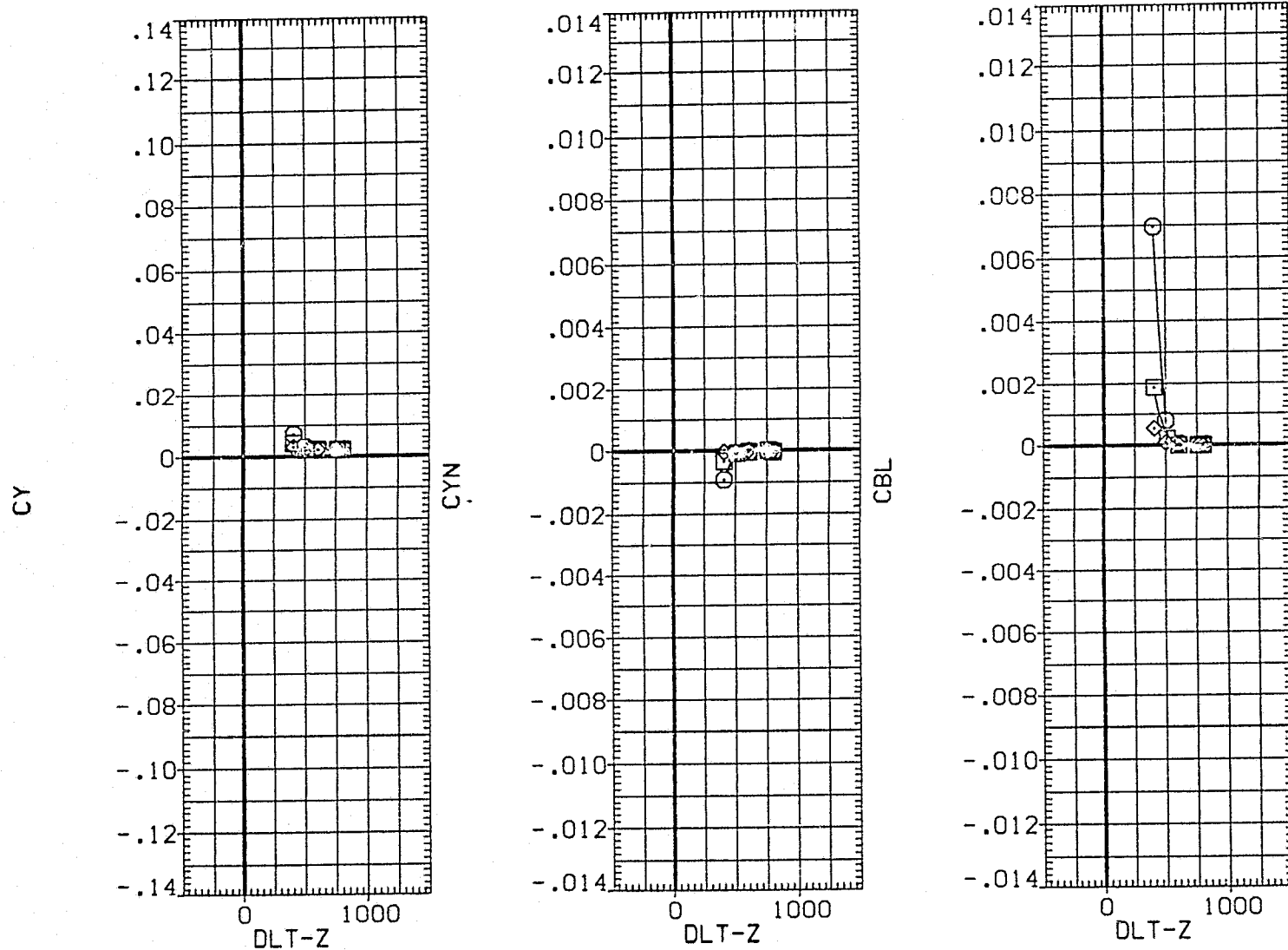


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR238)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.453	60.000	ALPHA -5.000
□	200.250	.000	DLTALF -20.000
◇	400.410	.000	MACH 5.930
		.000	ELEVON .000
		6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

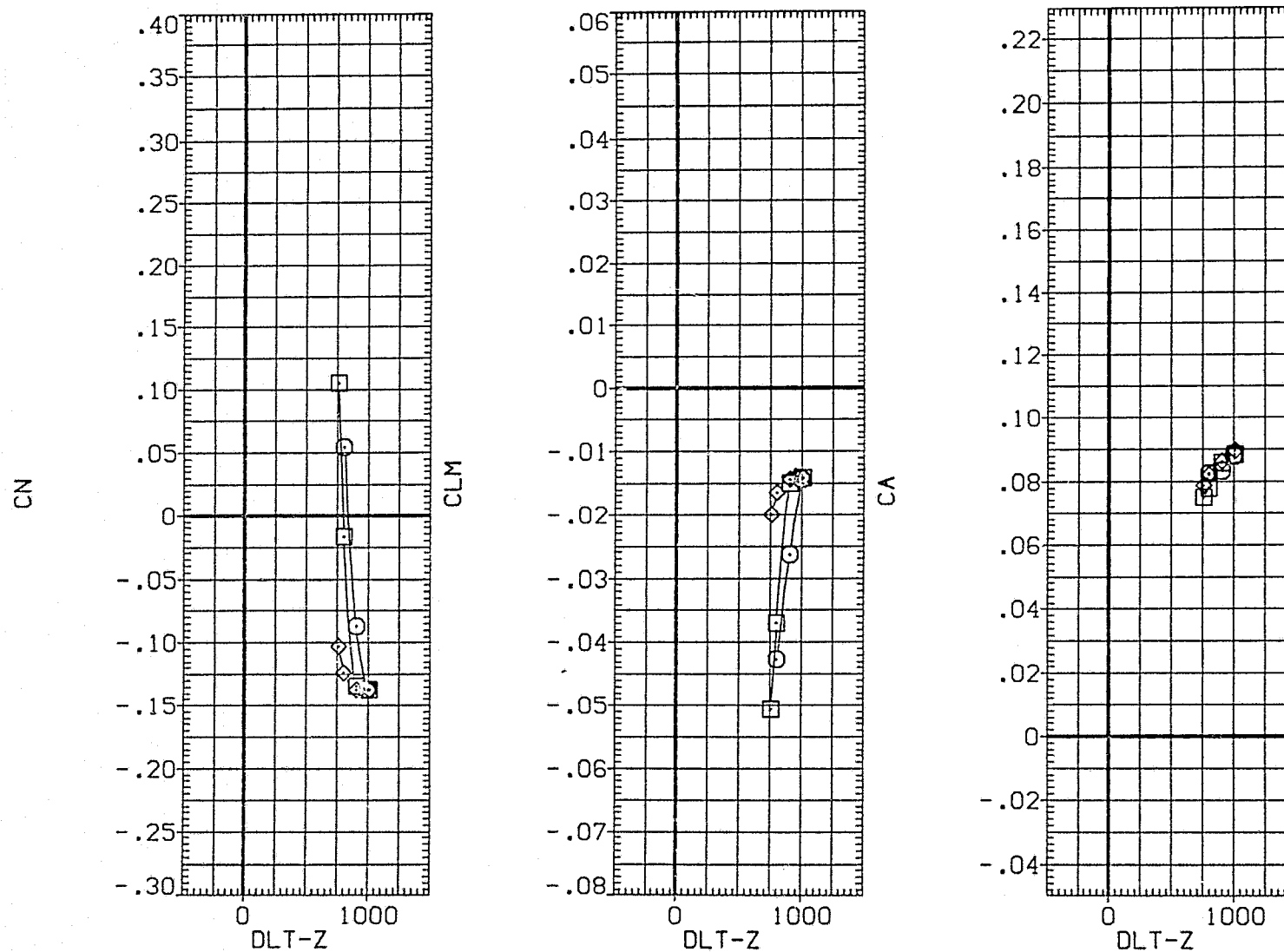


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR238)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.453	60.000	ALPHA -5.000
□	200.250	.000	DLTALF -20.000
◇	400.410	.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 6.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

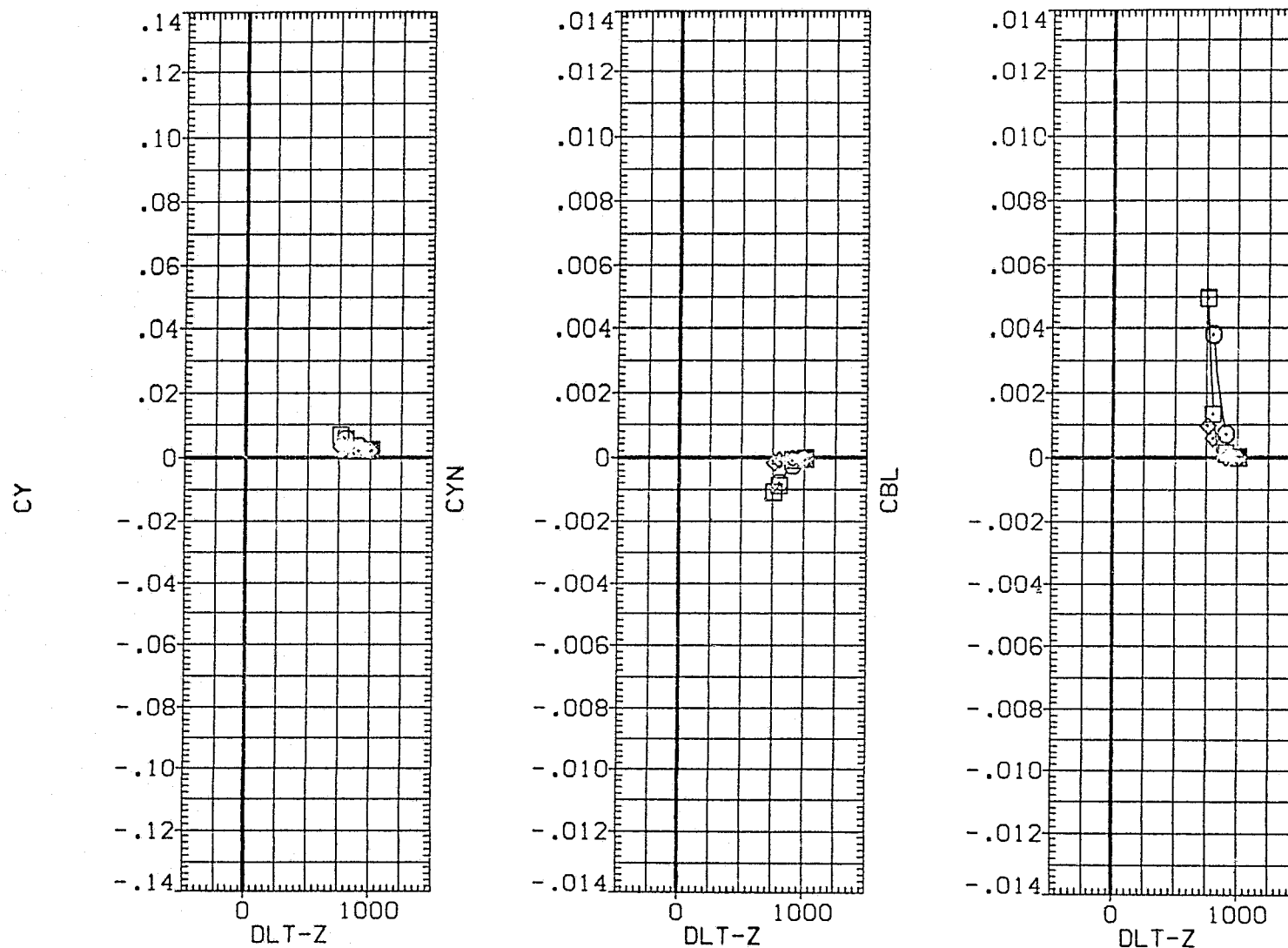


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR239)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.583	60.000	ALPHA	-5.000
□	200.420	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	.000
		6.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

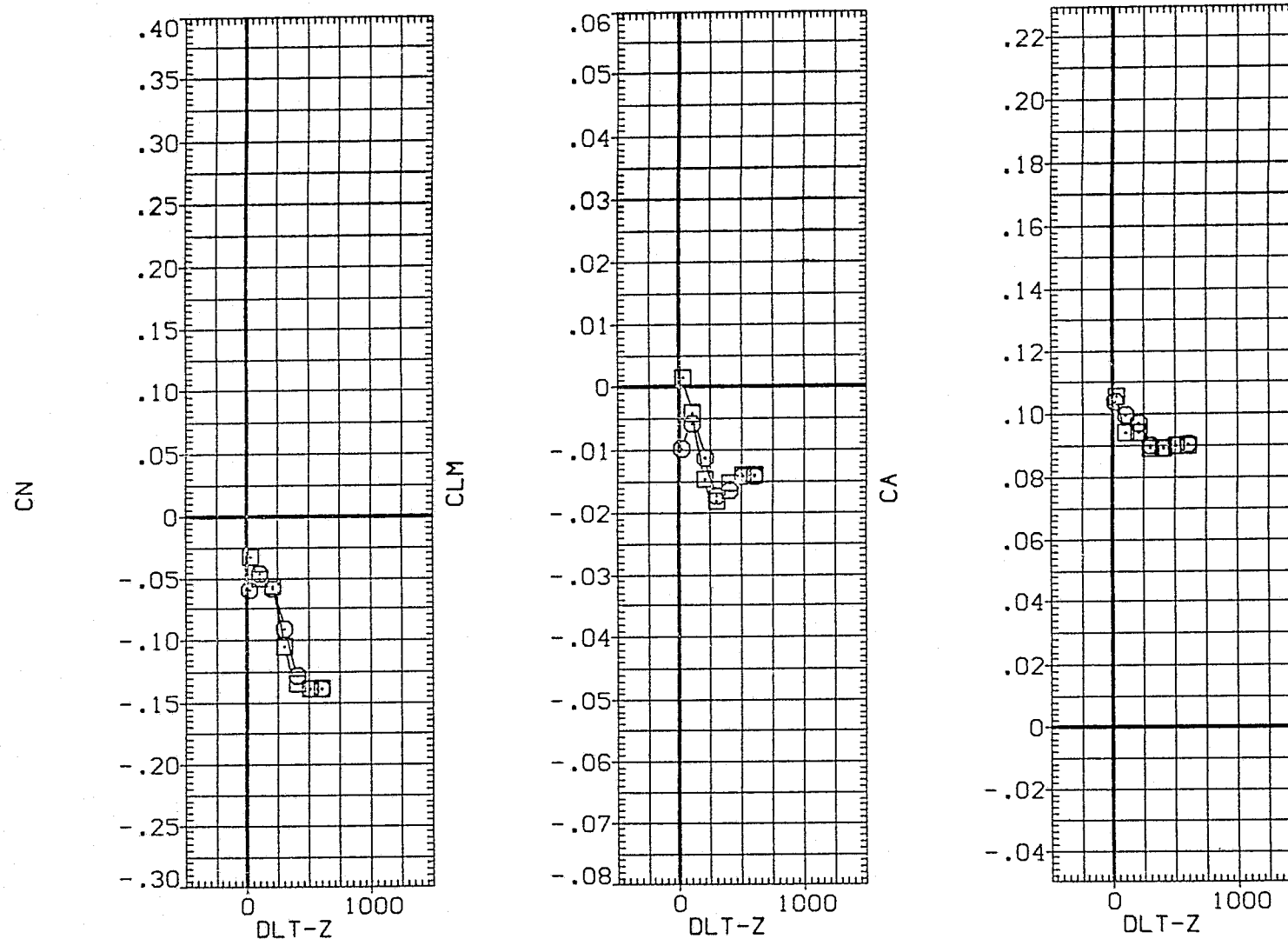


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR239)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.583	60.000	DLTALF	-5.000	
□	200.420	.000	MACH	.000	
		3.000	ELEVON	5.930	
		.000		.000	
		6.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

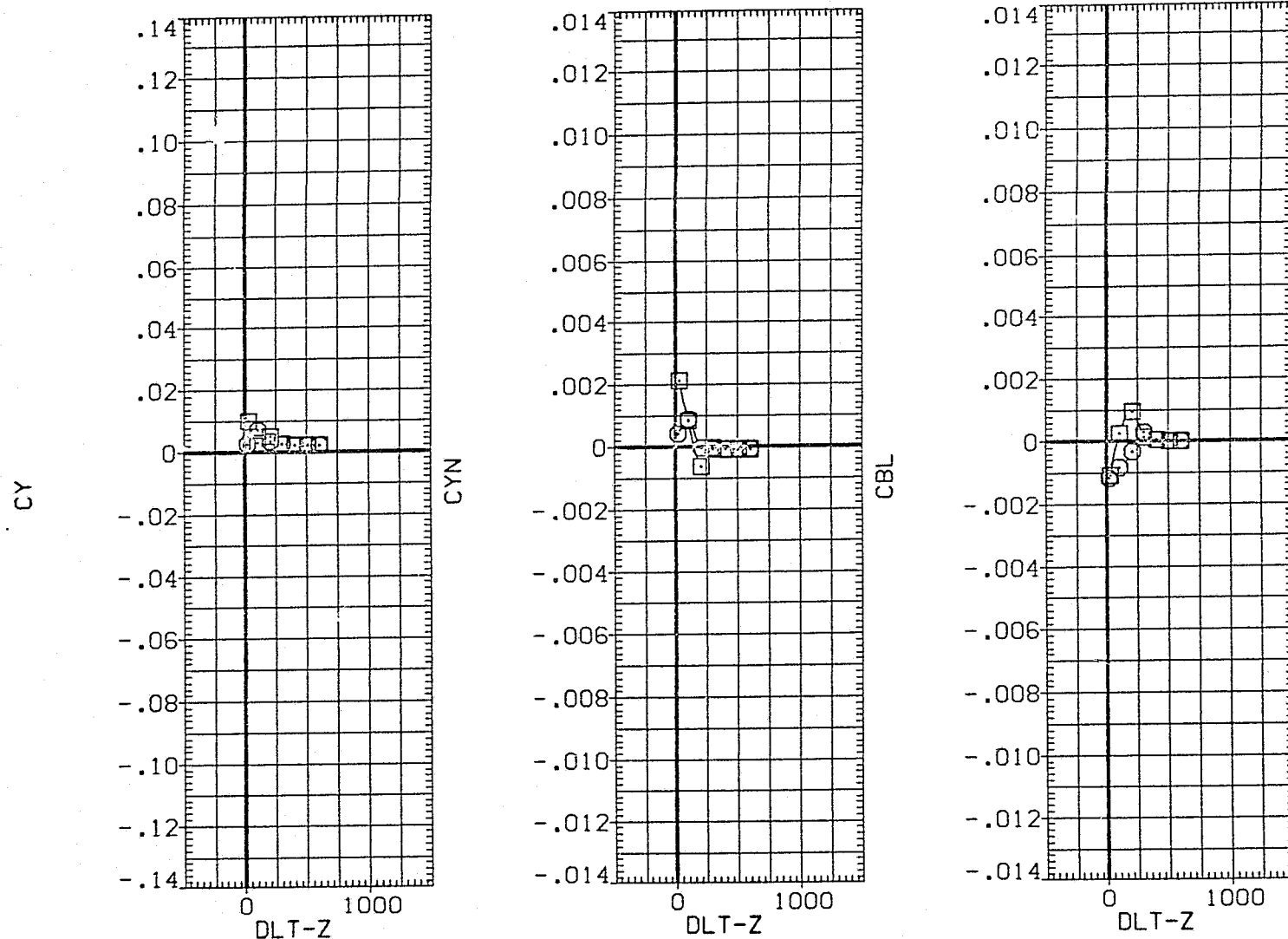


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR240)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.424	60.000	ALPHA	-5.000
□	200.490	.000	DLTALF	-10.000
◇	400.420	3.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

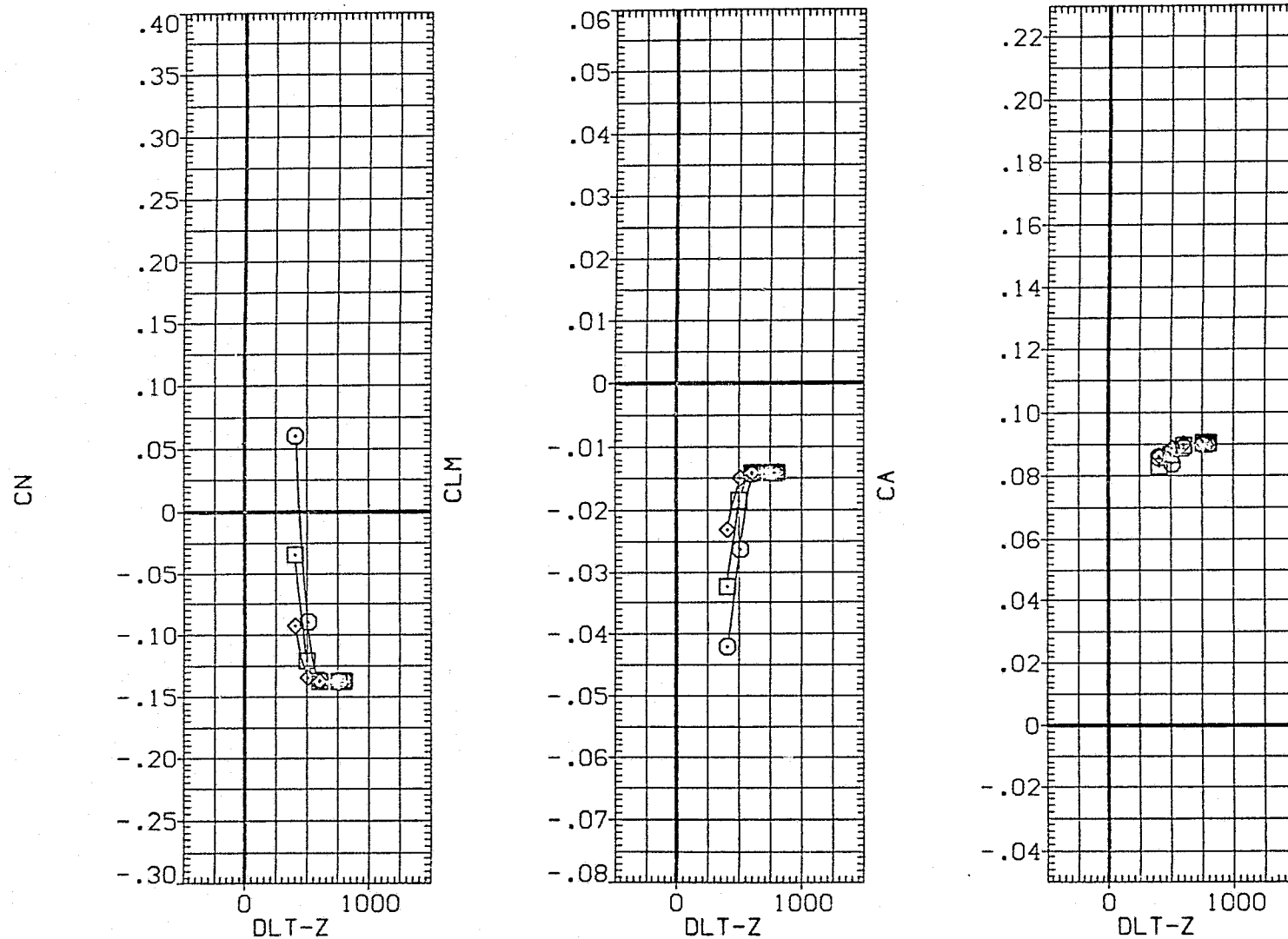


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR240)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.424	60.000	ALPHA	-5.000
□	200.490	BETA	.000	DLTALF -10.000
◇	400.420	DLTBT	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

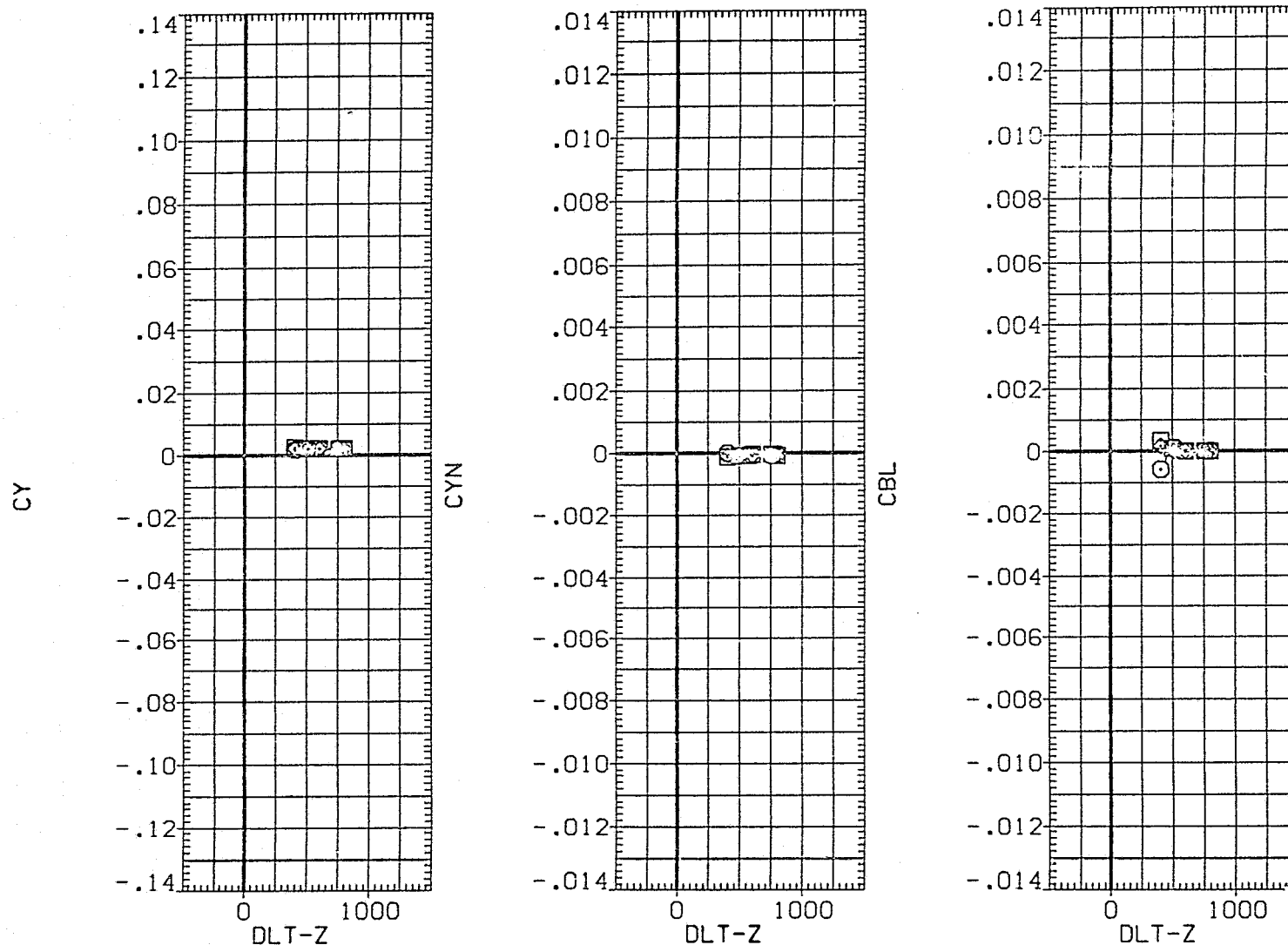


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR242)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.465	60.000	ALPHA	-5.000
□	200.350	.000	DLTALF	-20.000
◇	400.350	3.000	MACH	5.930
		.000	ELEVON	.000
		GRID	6.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

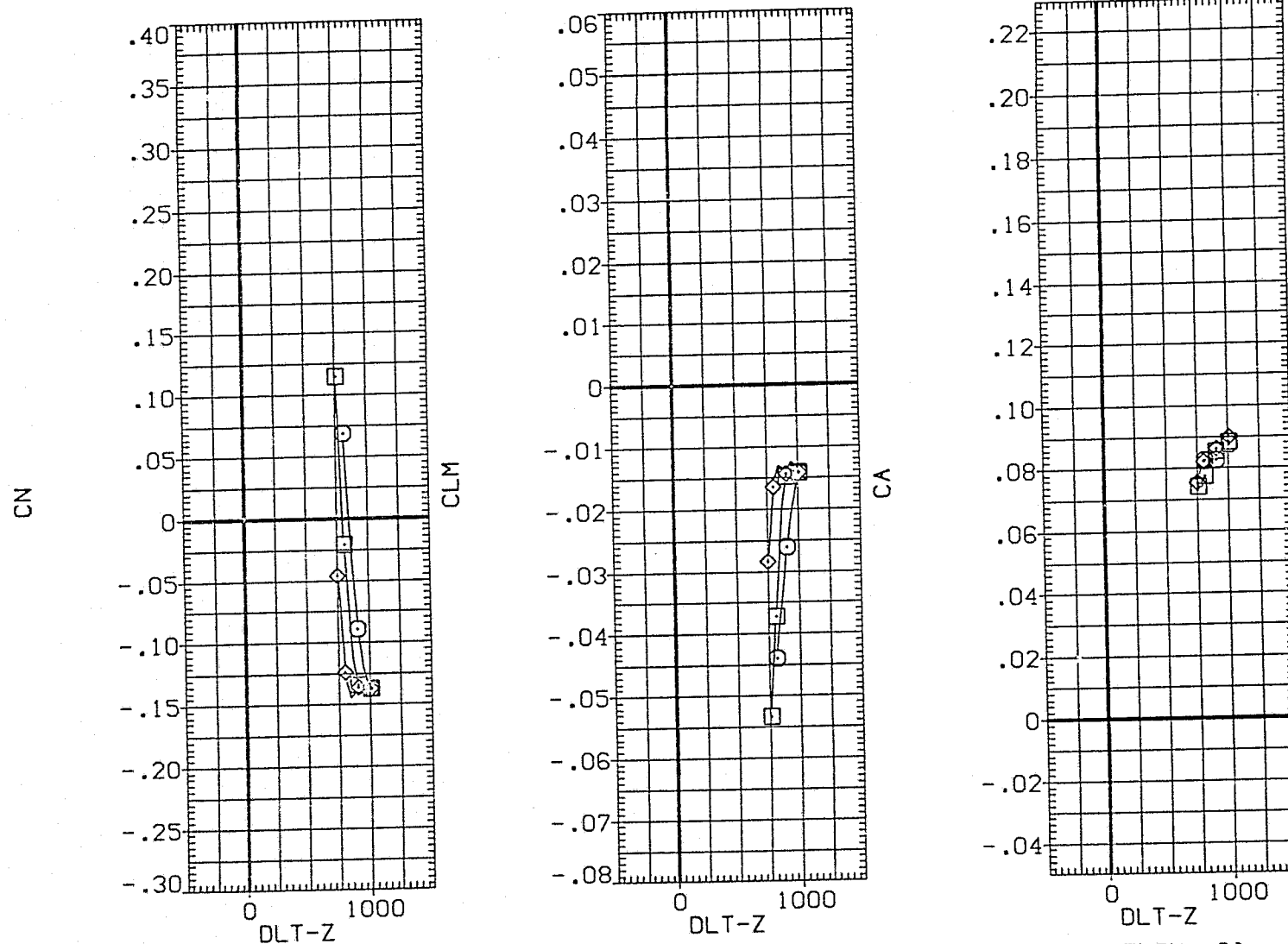


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR242)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	60.000	ALPHA	-5.000
○	.465	BETA	.000	DLTALF	-20.000
□	200.350	DLTBTA	3.000	MACH	5.930
◇	400.350	AILRON	.000	ELEVON	.000
		GRID	6.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

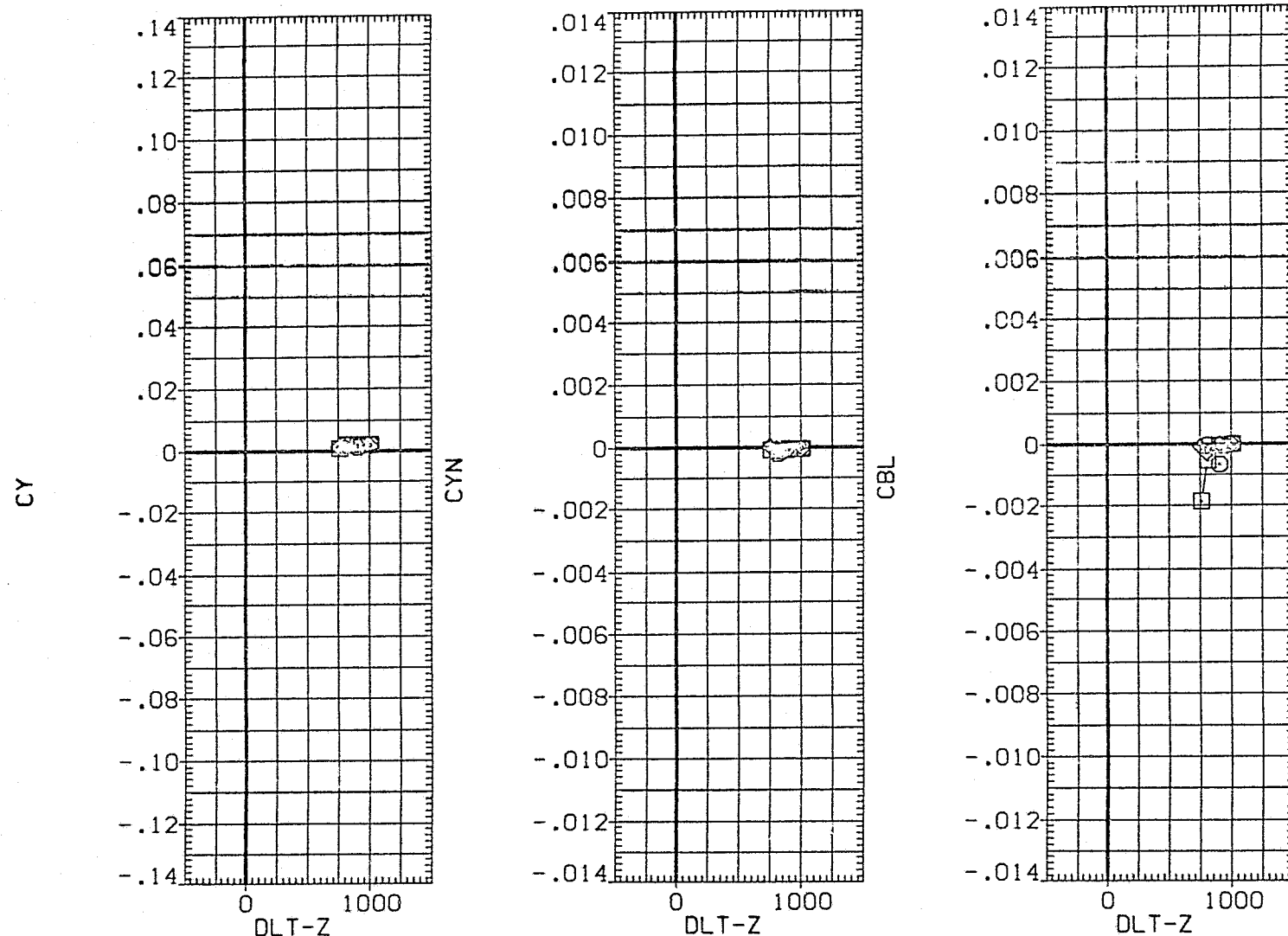


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR243)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.633	BETA	60.000	ALPHA
□	209.520	DLTBTA	3.000	DLTALF
		AILRON	.000	MACH
		GRID	.000	ELEVON
			7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

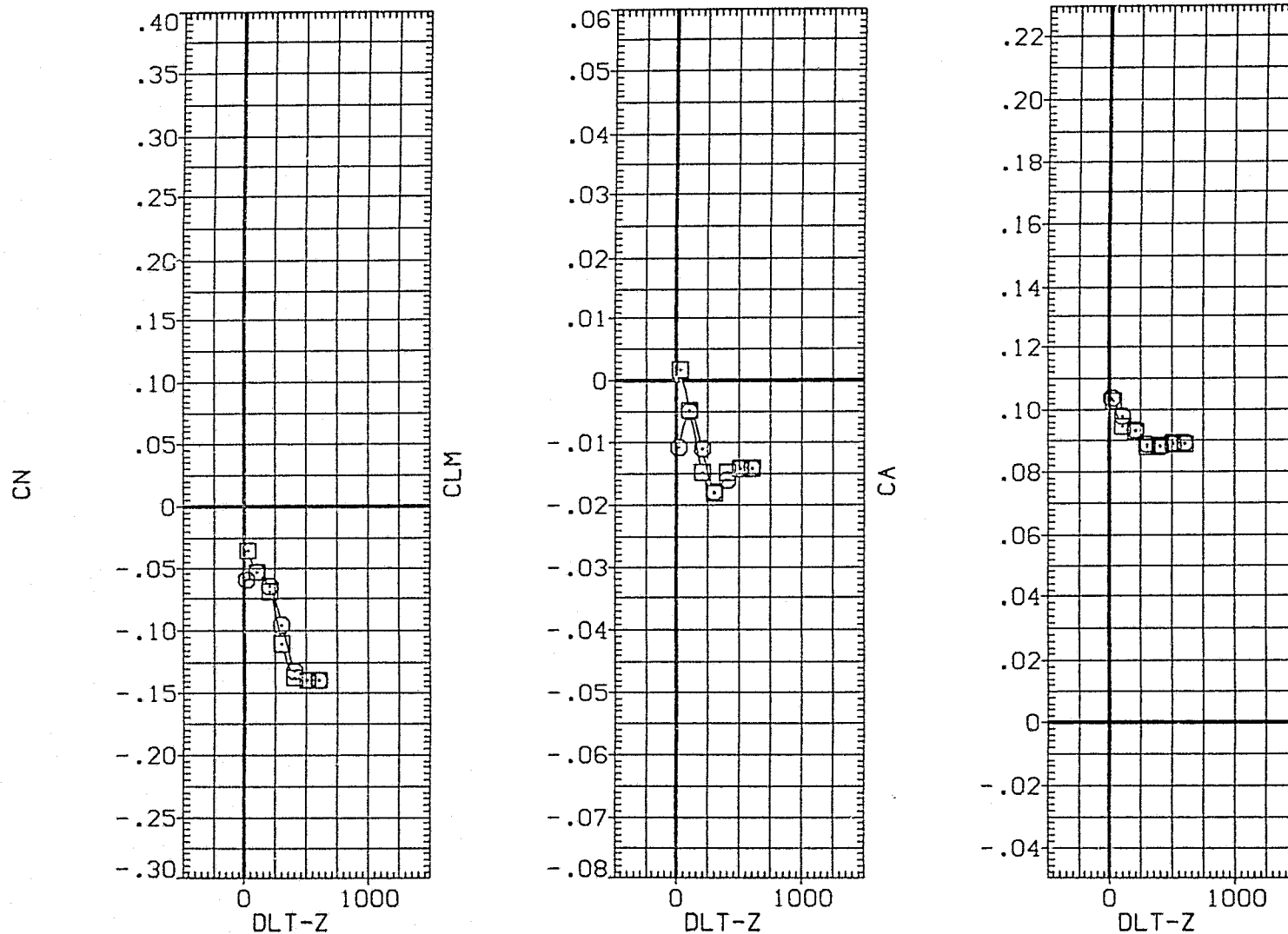


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR243)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.633	BETA	60.000	ALPHA -5.000
□	200.520	DLTBT	3.000	DLTALF .000
		AILRON	.000	MACH 5.930
		GRID	7.000	ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

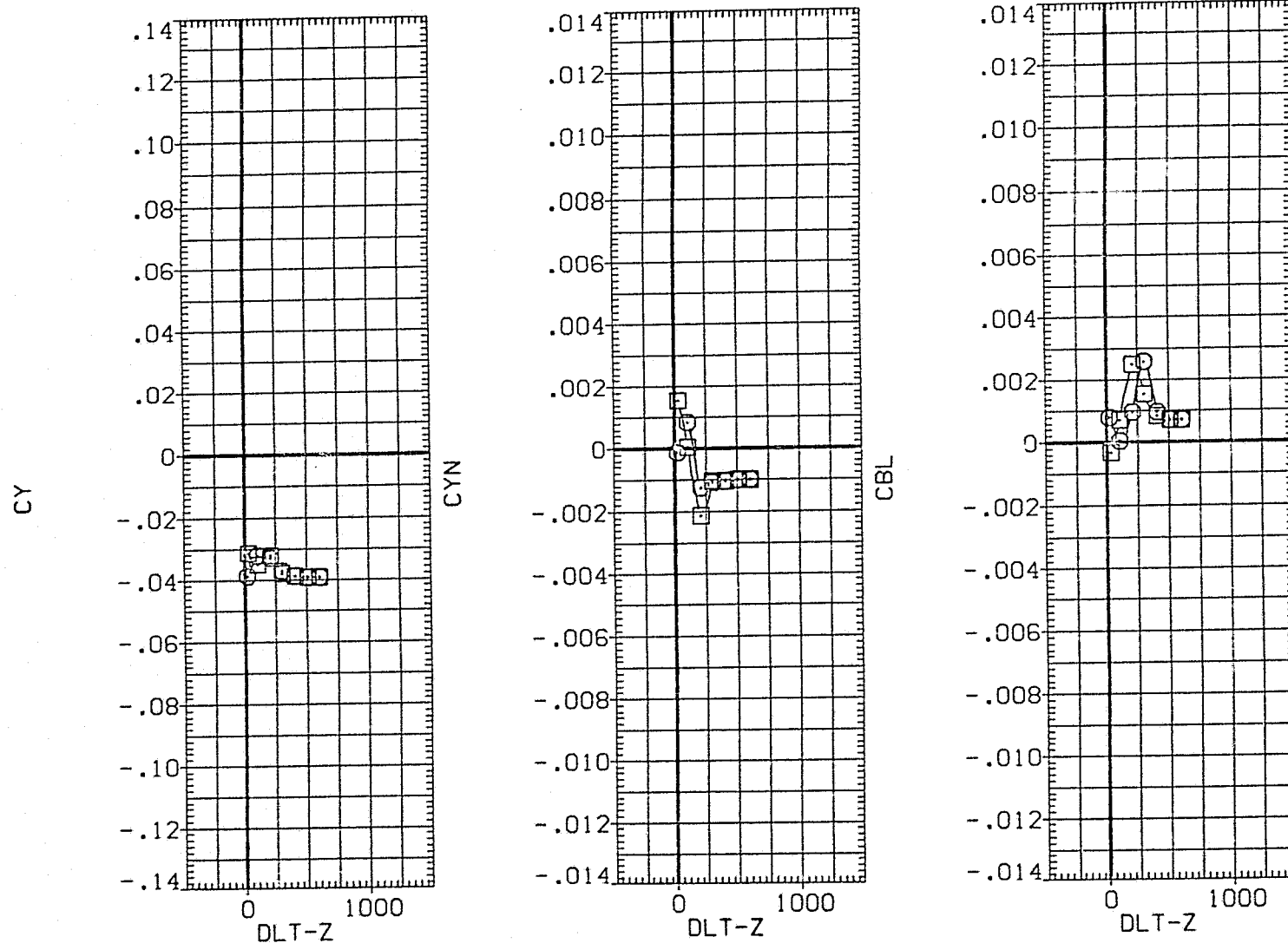


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR244)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.541	60.000	ALPHA	-5.000
□	200.610	3.000	DLTALF	-10.000
◇	400.490	.000	MACH	5.930
		.000	ELEVON	.000
		7.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

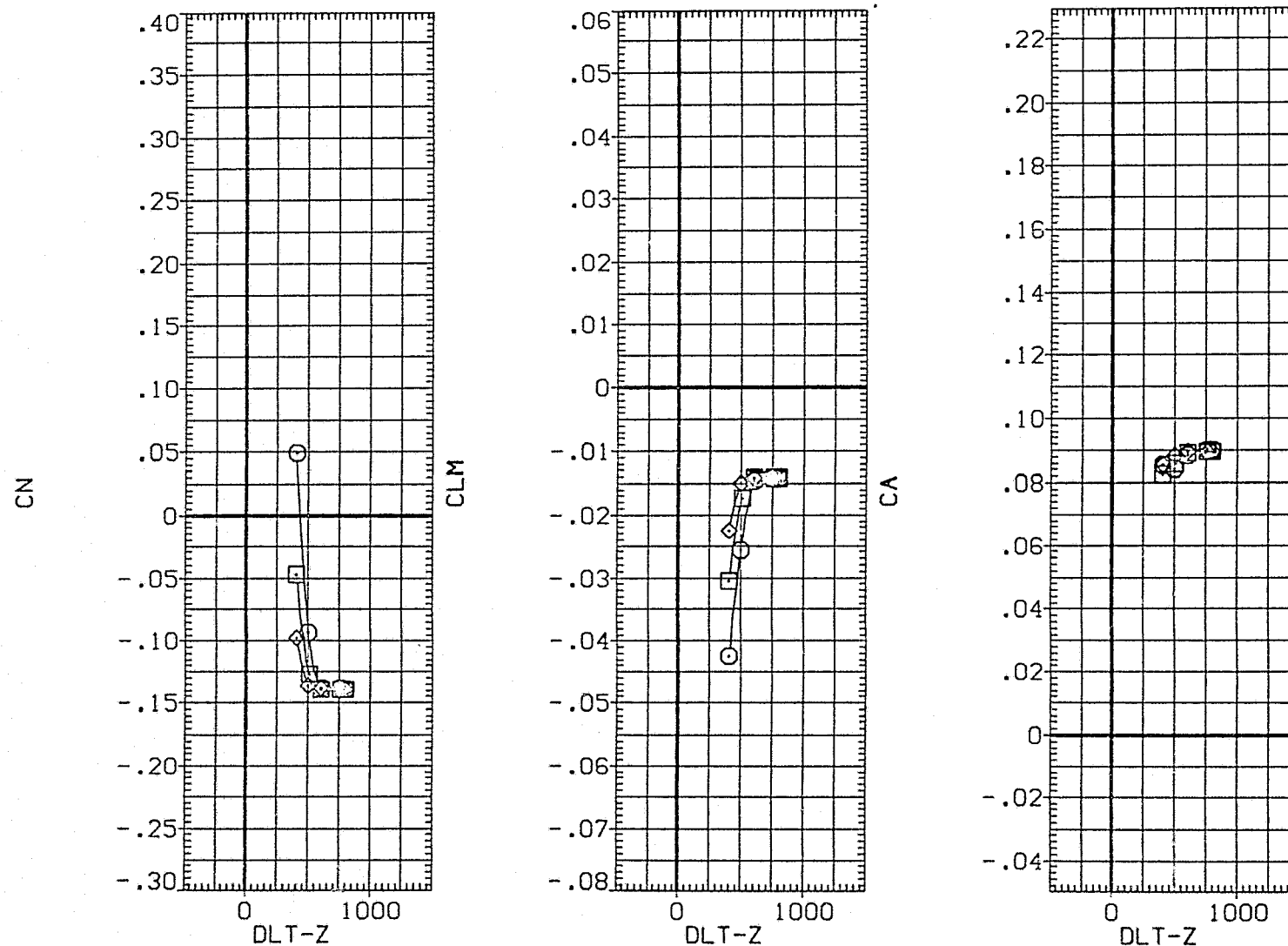


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR244)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.541	60.000	ALPHA	-5.000
□	200.610	BETA	3.000	DLTALF
◇	400.490	DLTBTA	.000	MACH
		AILRON	.000	ELEVON
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

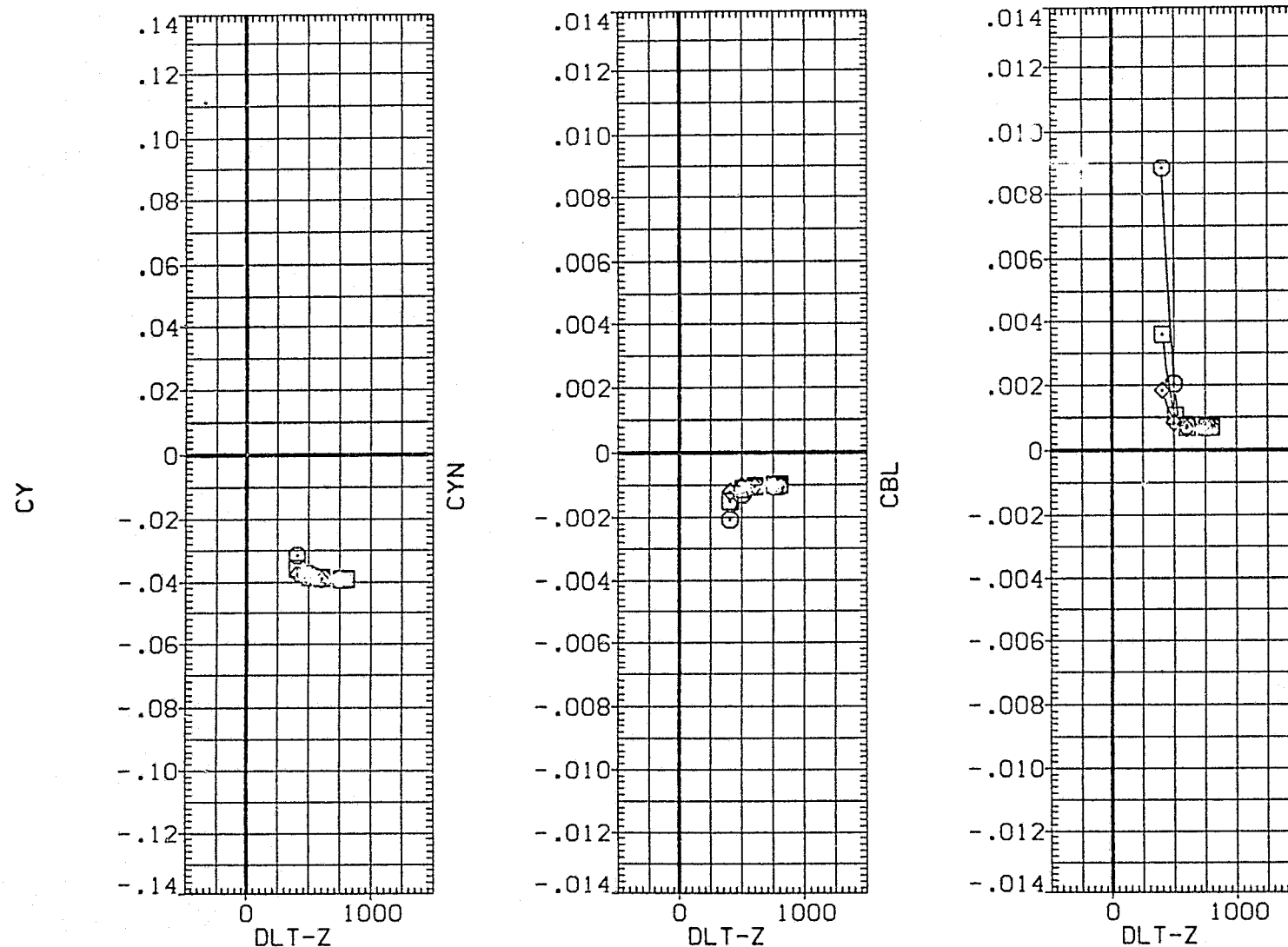


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR246)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.384	60.000	ALPHA	-5.000
□	200.330	3.000	DLTALF	-20.000
◇	400.510	.000	MACH	5.930
		.000	ELEVON	.000
		7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. Z0
SCALE	.0100	

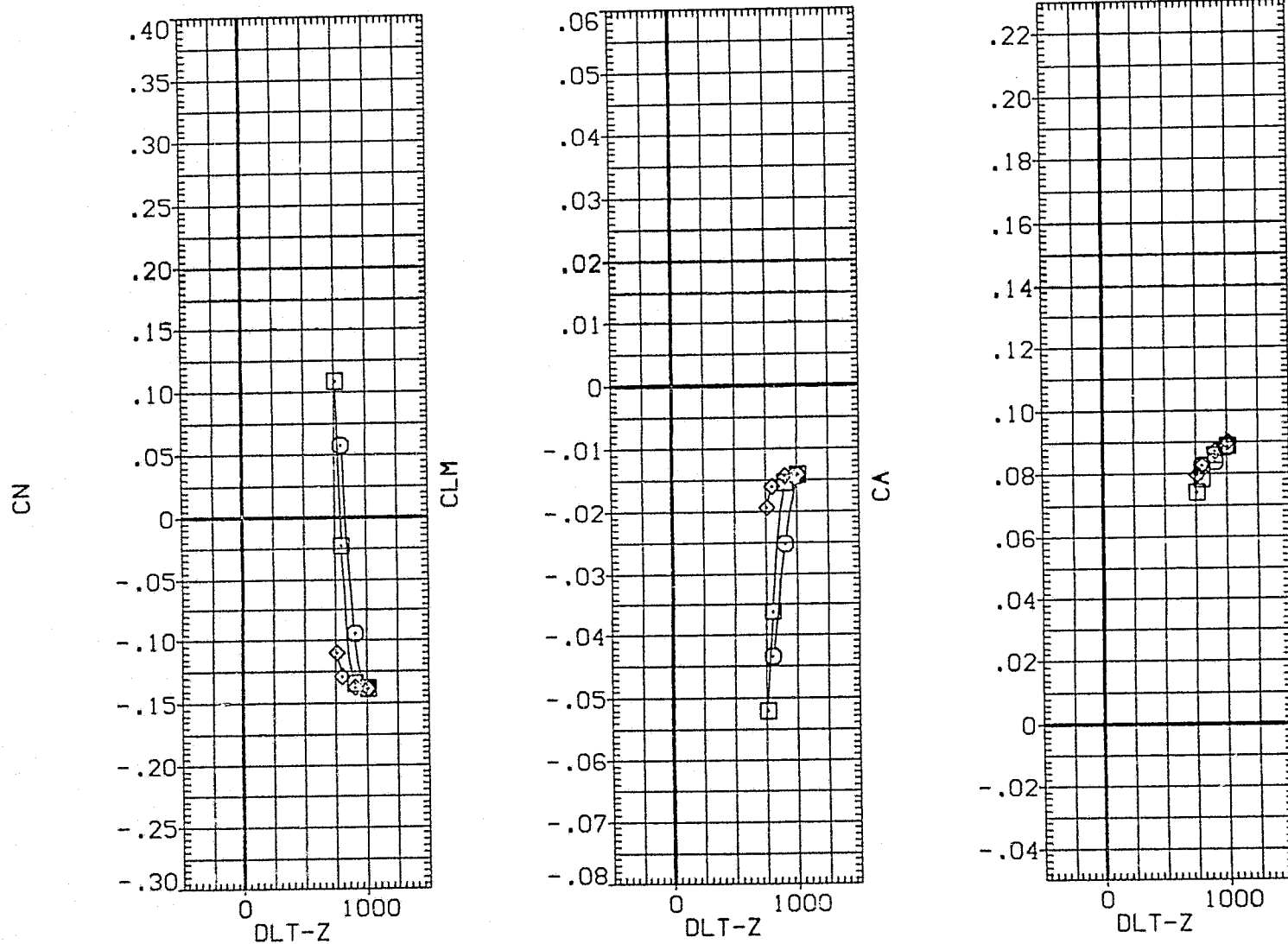


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR246)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.384	60.000	DLTALF	-5.000	
□	200.330	3.000	MACH	5.930	
◇	400.510	.000	ELEVON	.000	
		AILRON			
		GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

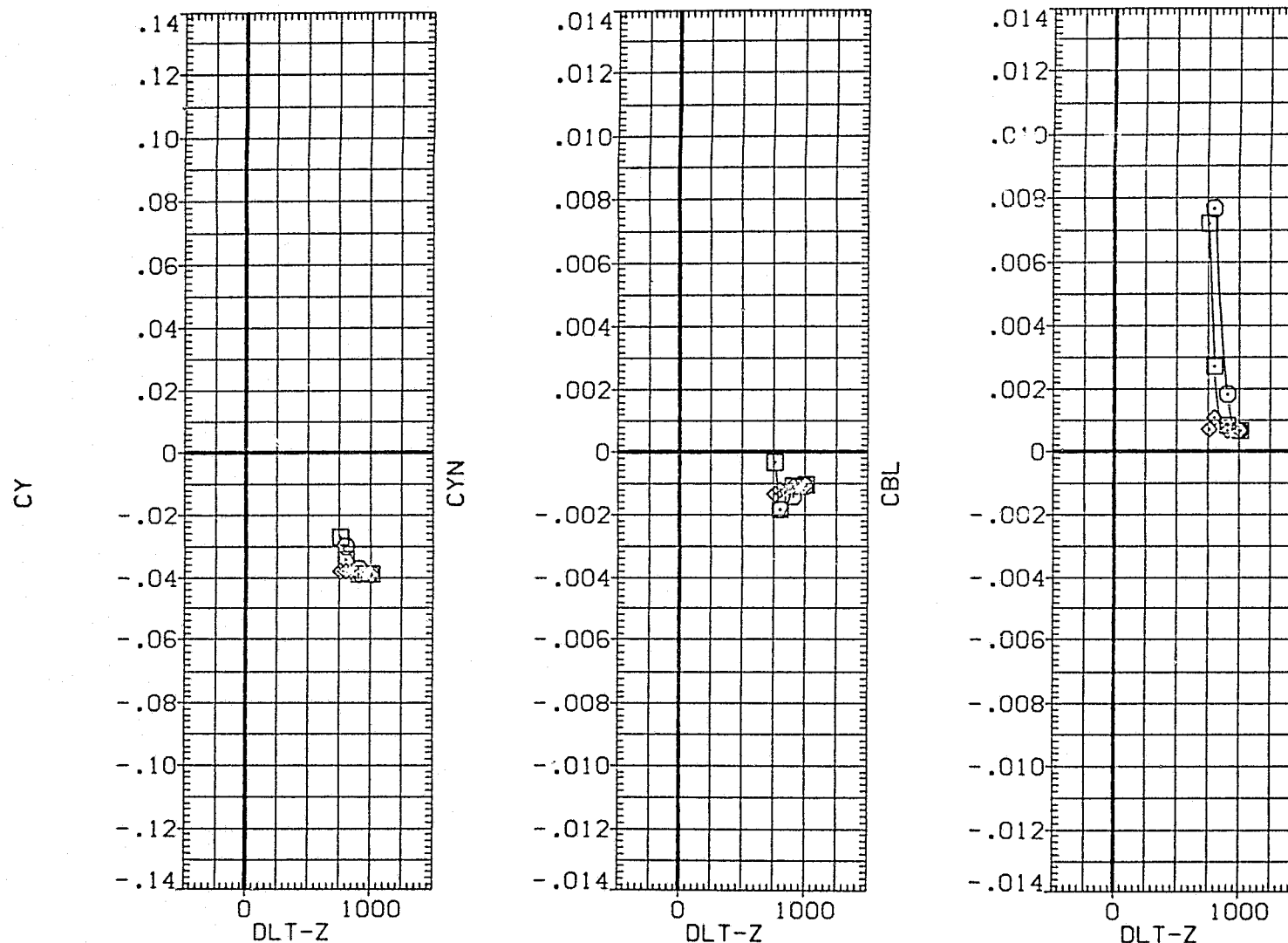


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR247)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.560	60.000	ALPHA	-5.000
□	200.400	BETA	DLTALF	.000
		DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		7.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRF	1089.6000 IN. X0
YMRF	.0000 IN. Y0
ZMRF	375.0000 IN. Z0
SCALE	.0100

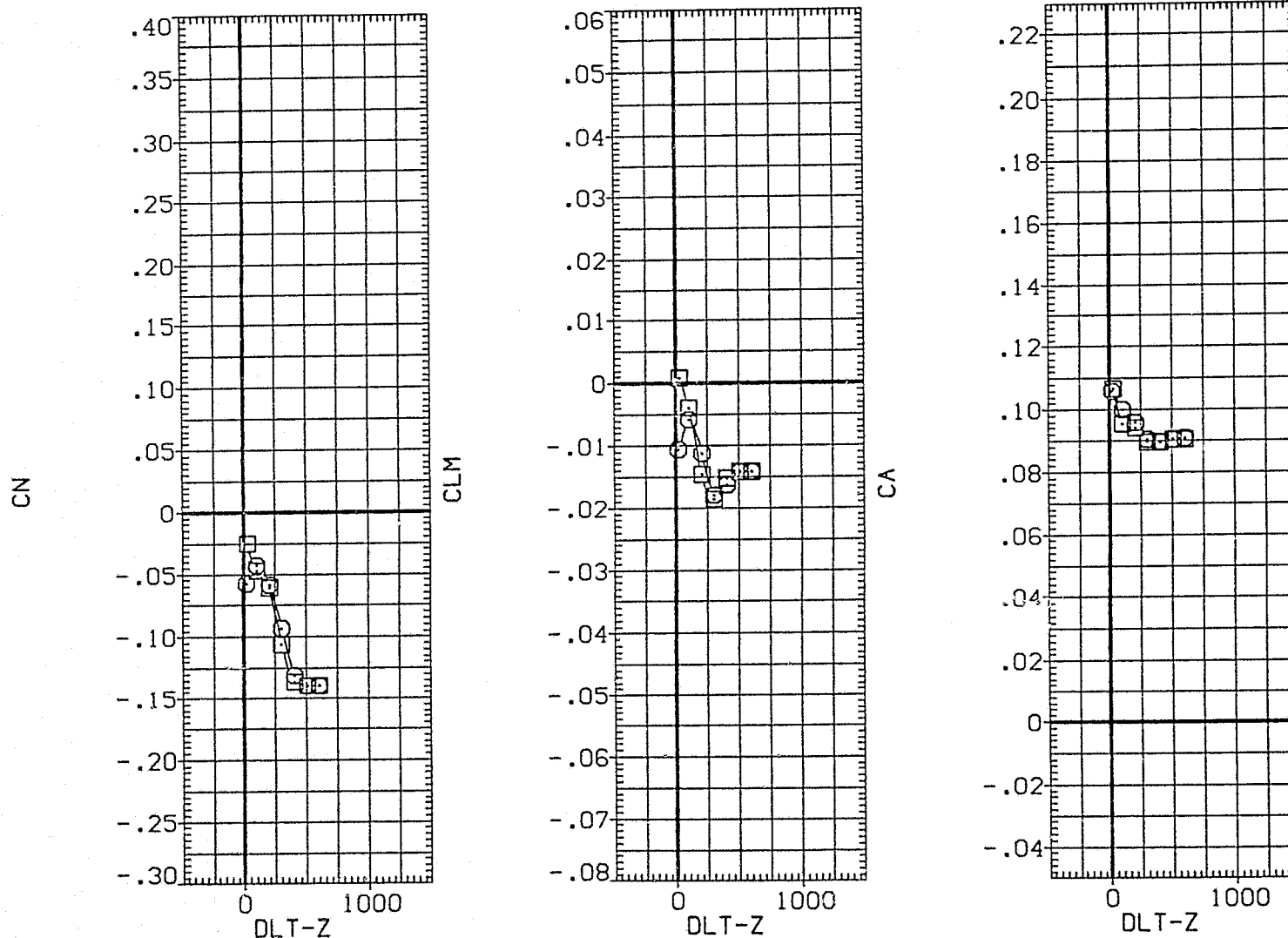


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR247)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.560	DLT-Y	60.000	ALPHA	-5.000
□	200.400	BETA	3.000	DLTALF	.000
		DLTBT	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

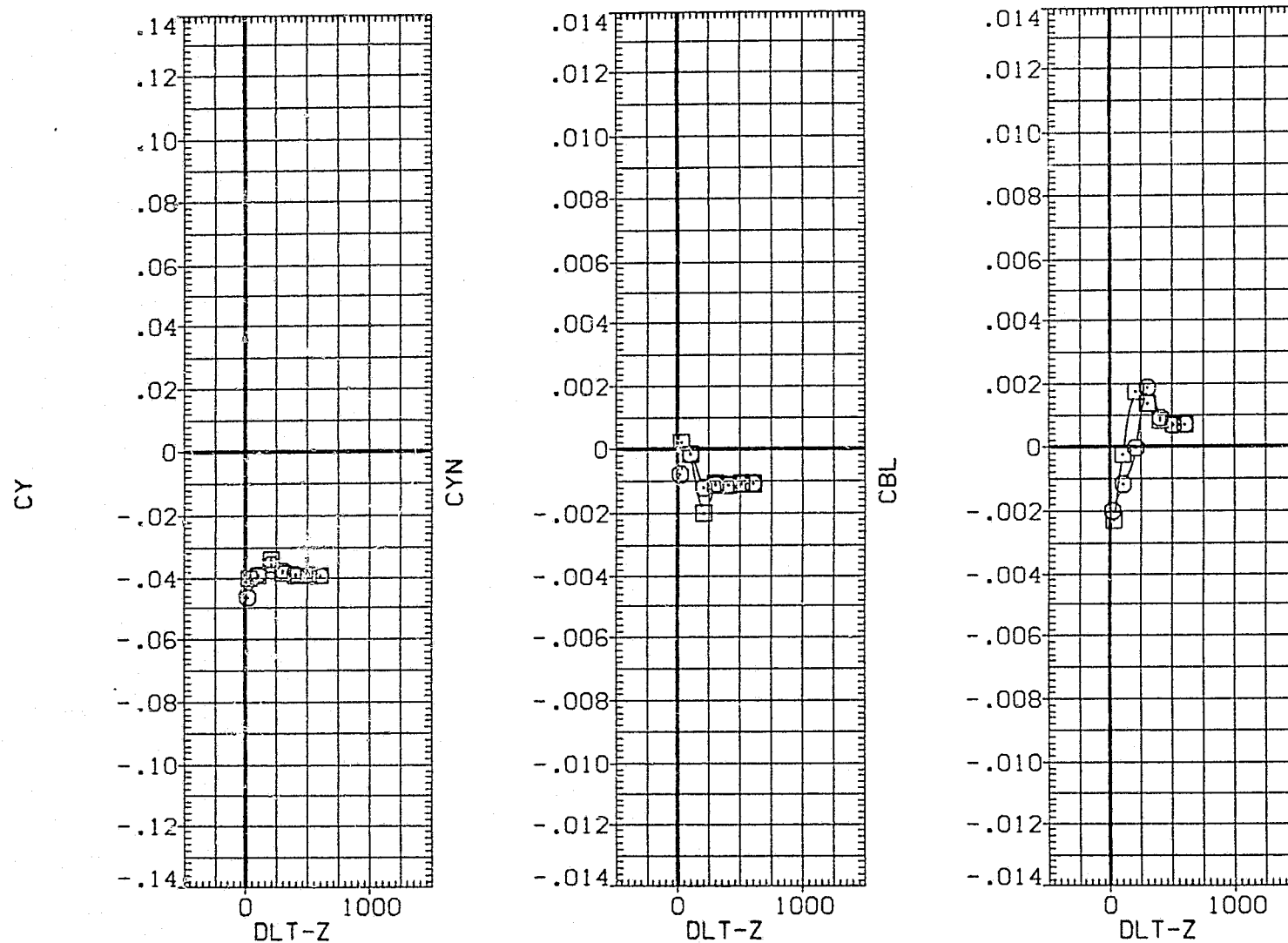


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR248)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.538	60.000	ALPHA		-5.000
□	200.560	BETA	3.000	DLTALF	-10.000
◇	400.410	DLTBT	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

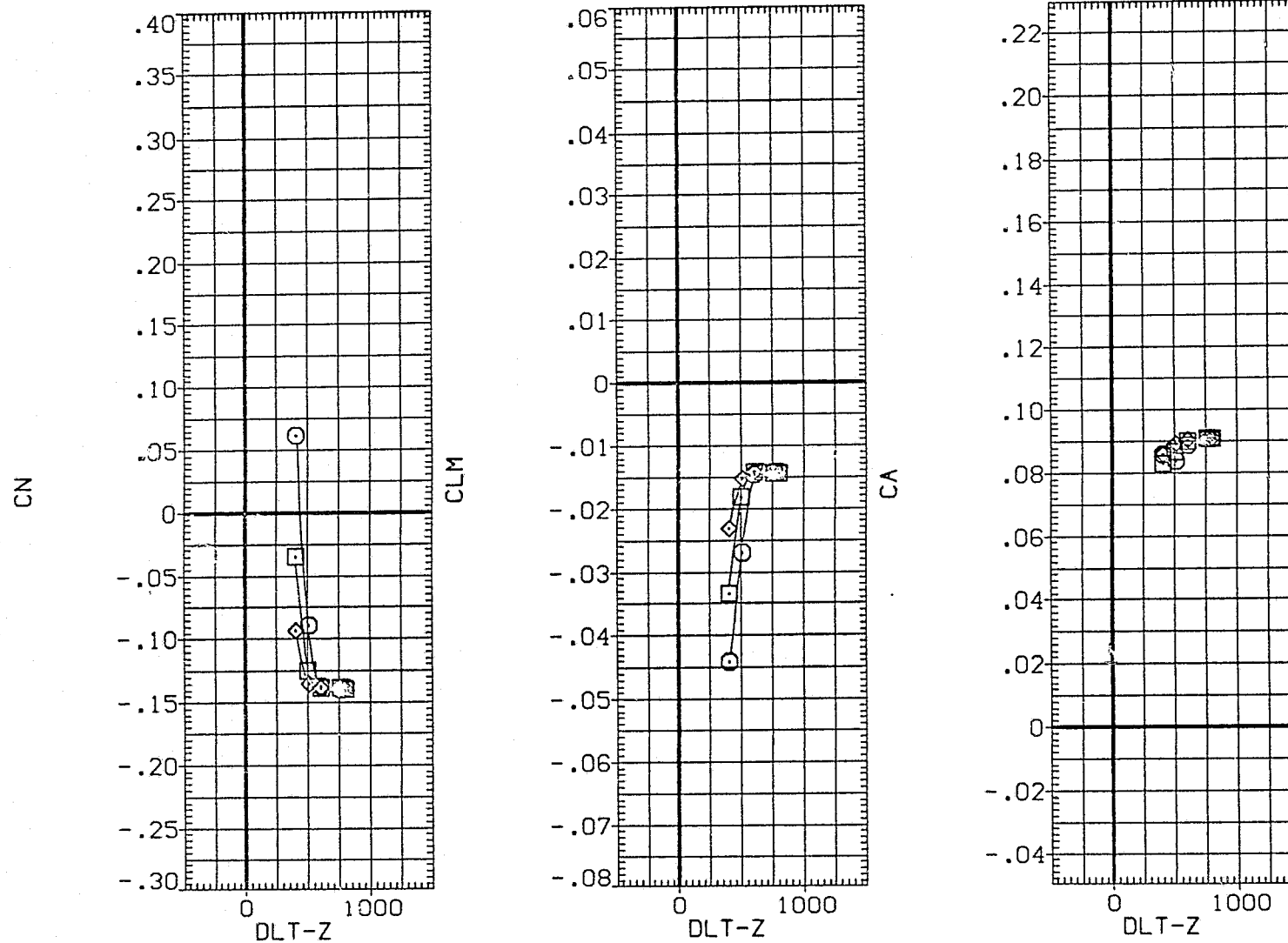


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR248)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.538	60.000	ALPHA	-5.000
□	200.560	BETA	3.000	DLTALF -10.000
◇	400.410	DLTBTA	3.000	MACH 5.930
		AIRON	.000	ELEVON .000
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

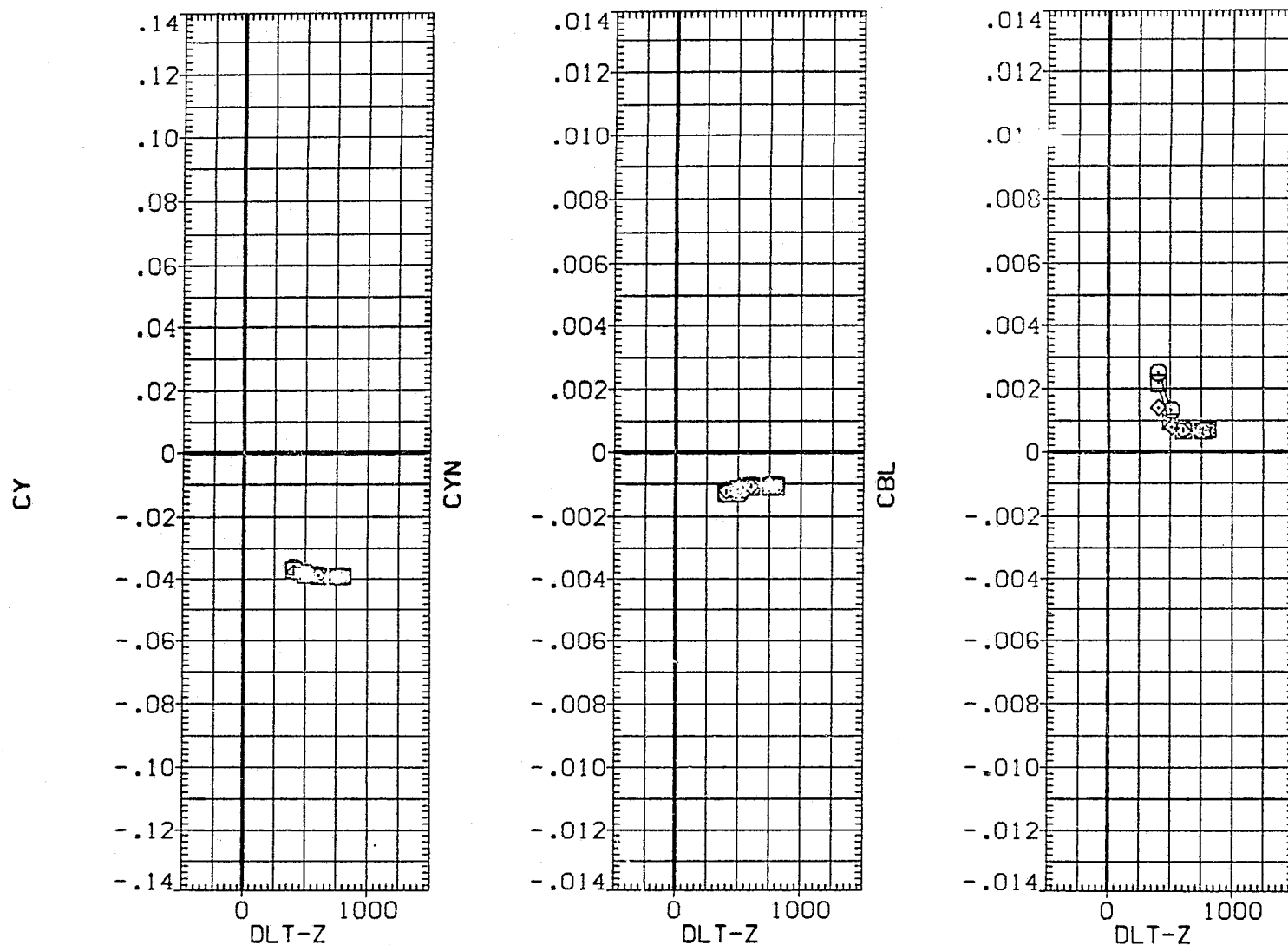


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR250)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.546	60.000	DLTALF	-5.000	
□	200.370	BETA 3.000	MACH	-20.000	
◇	400.450	DLTBTA 3.000	ELEVON	5.930	
		AILRON .000		.000	
		GRID 7.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

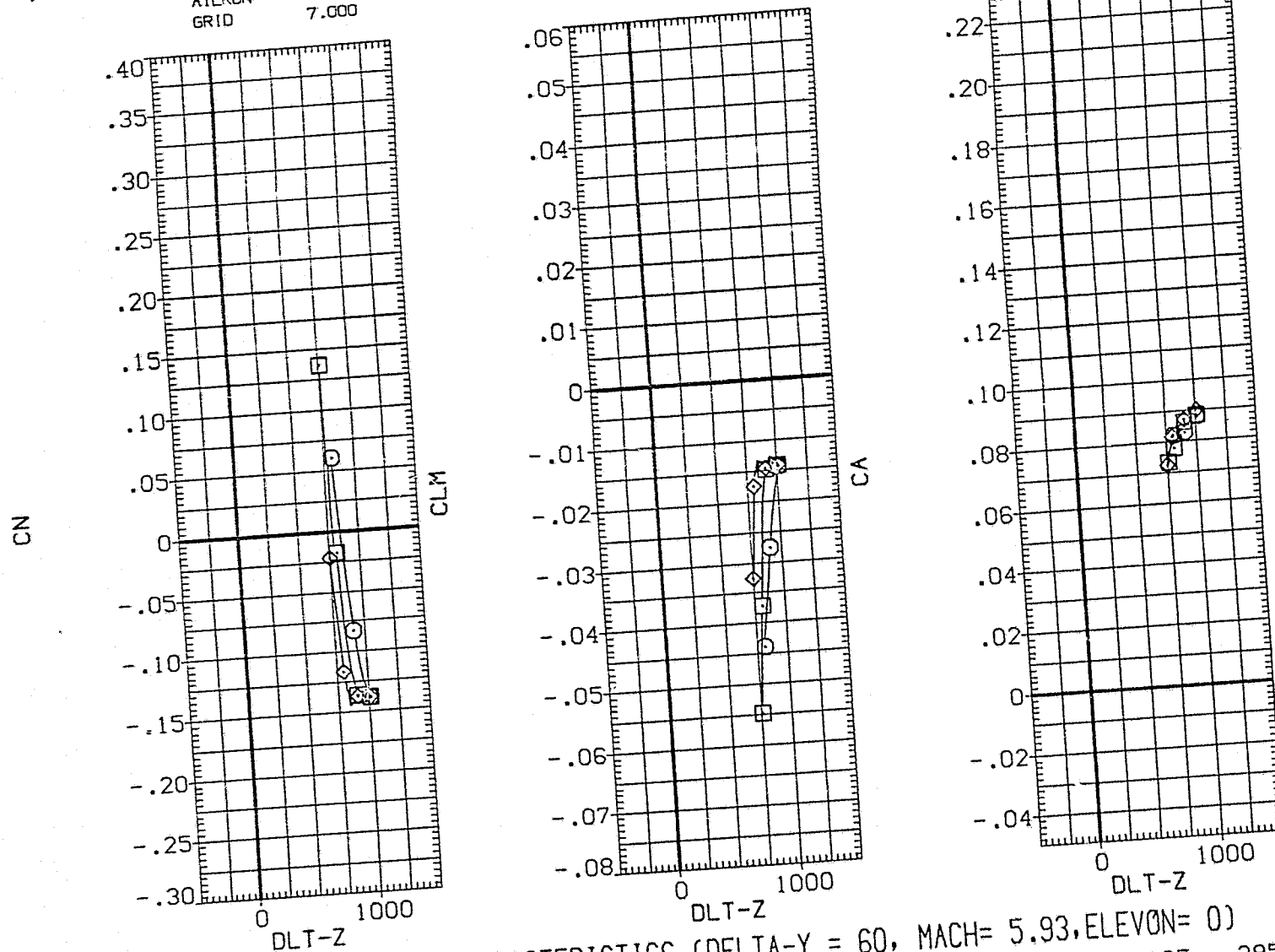


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR250)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.546	60.000	ALPHA	-5.000
□	200.370	BETA	3.000	DLTALF -20.000
◇	400.450	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

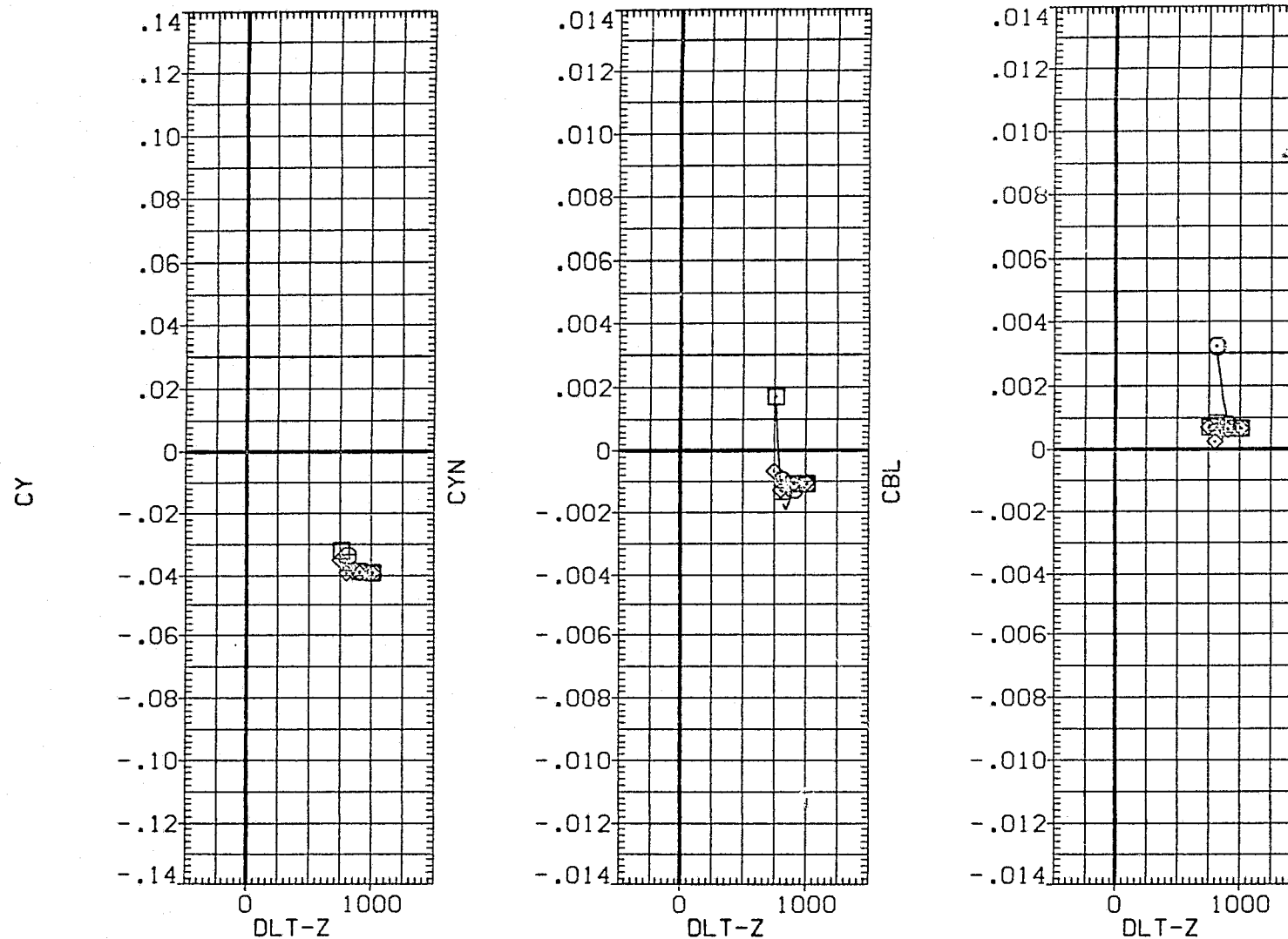


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR327)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	60.000	ALPHA	10.000	
○	.521	BETA	.000	DLTALF	-10.000	
□	200.500	DLTBTA	.000	MACH	5.930	
◇	400.470	AILRON	.000	ELEVON	.000	
		GRID	23.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

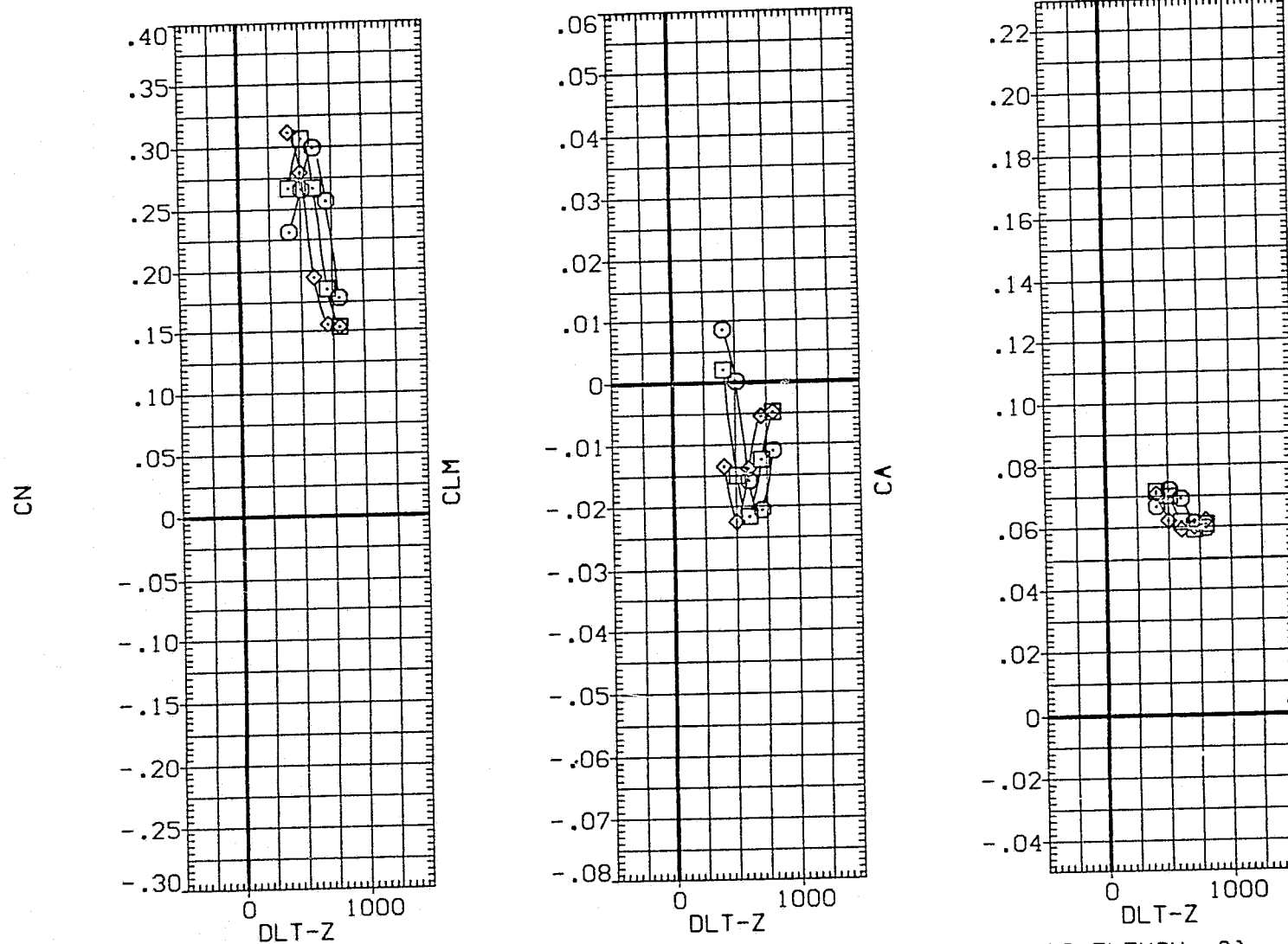


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR327)

SYMBOL		PARAMETRIC VALUES			
	DLT-X				
○	.521	DLT-Y	60.000	ALPHA	10.000
□	200.500	BETA	.000	DLTALF	-10.000
◇	400.470	DLTBT A	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	23.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0100	

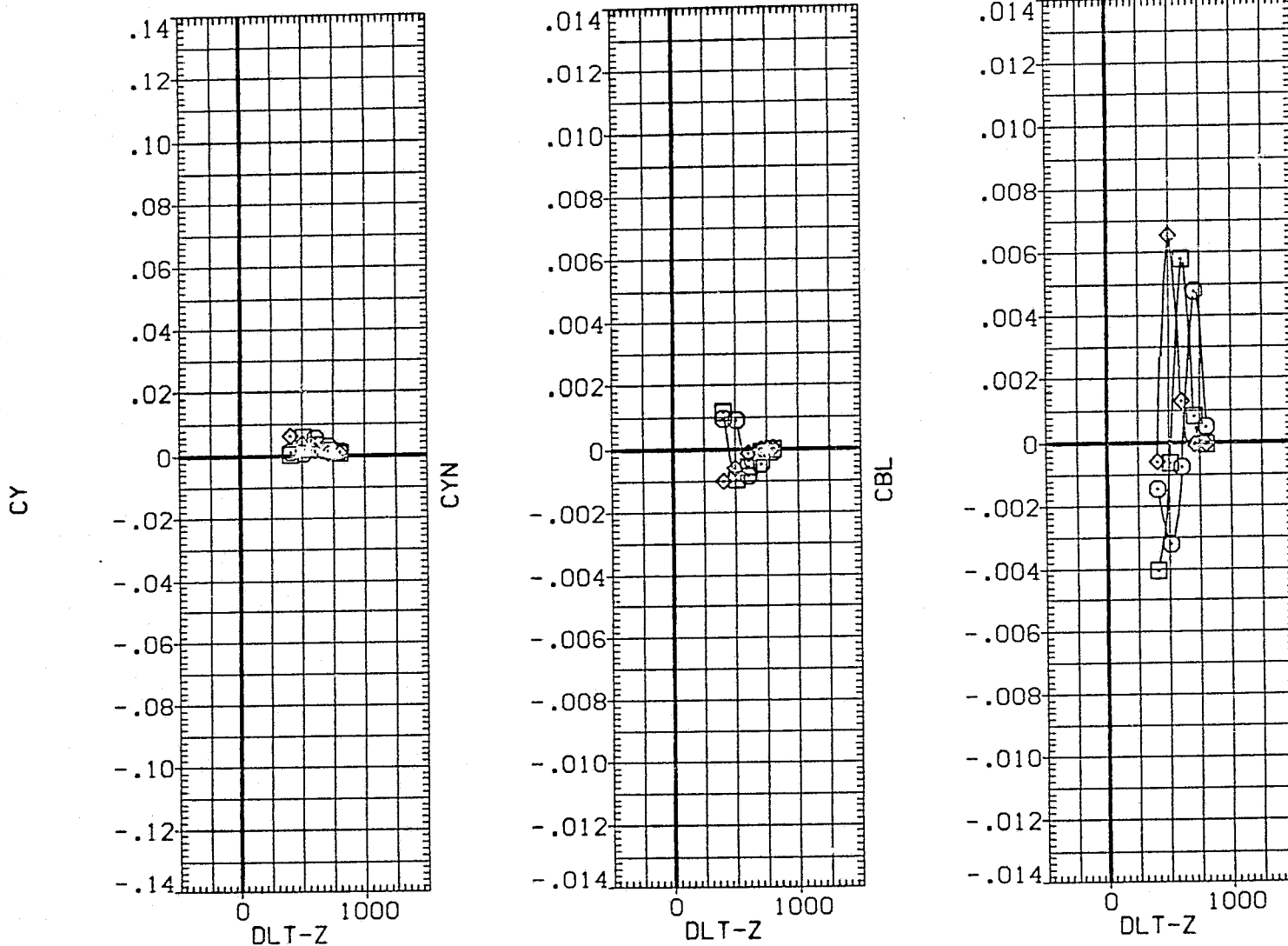


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR328)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.472	60.000	ALPHA	10.000
□	200.490	.000	DLTALF	-20.000
◇	400.500	.000	MACH	5.930
		.000	ELEVON	.000
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

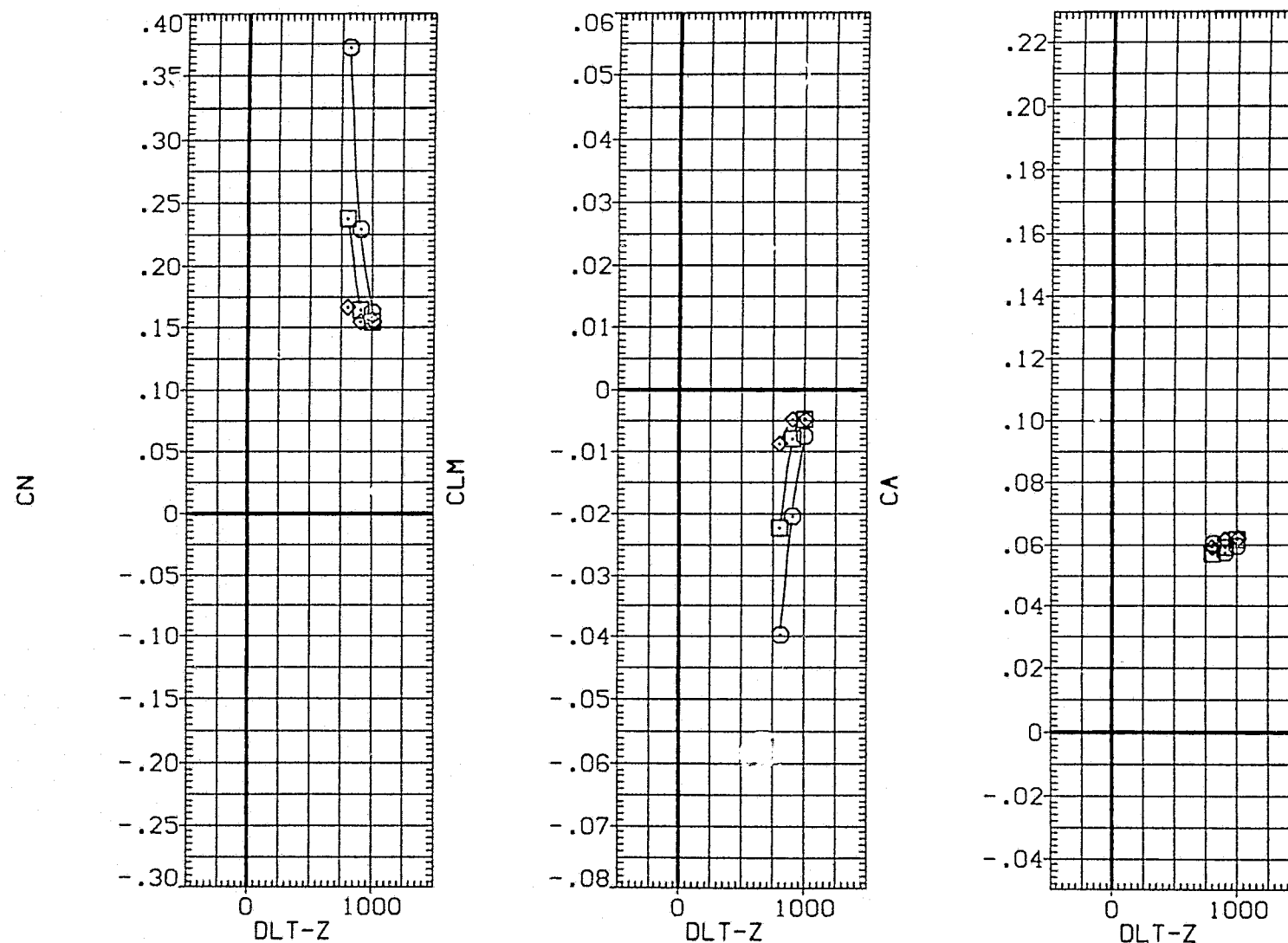


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR328)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
	◊	.472	60.000	ALPHA	10.000
	□	200.490	.000	DLTALF	-20.000
	◇	400.500	.000	MACH	5.930
			.000	ELEVON	.000
		GRID	23.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

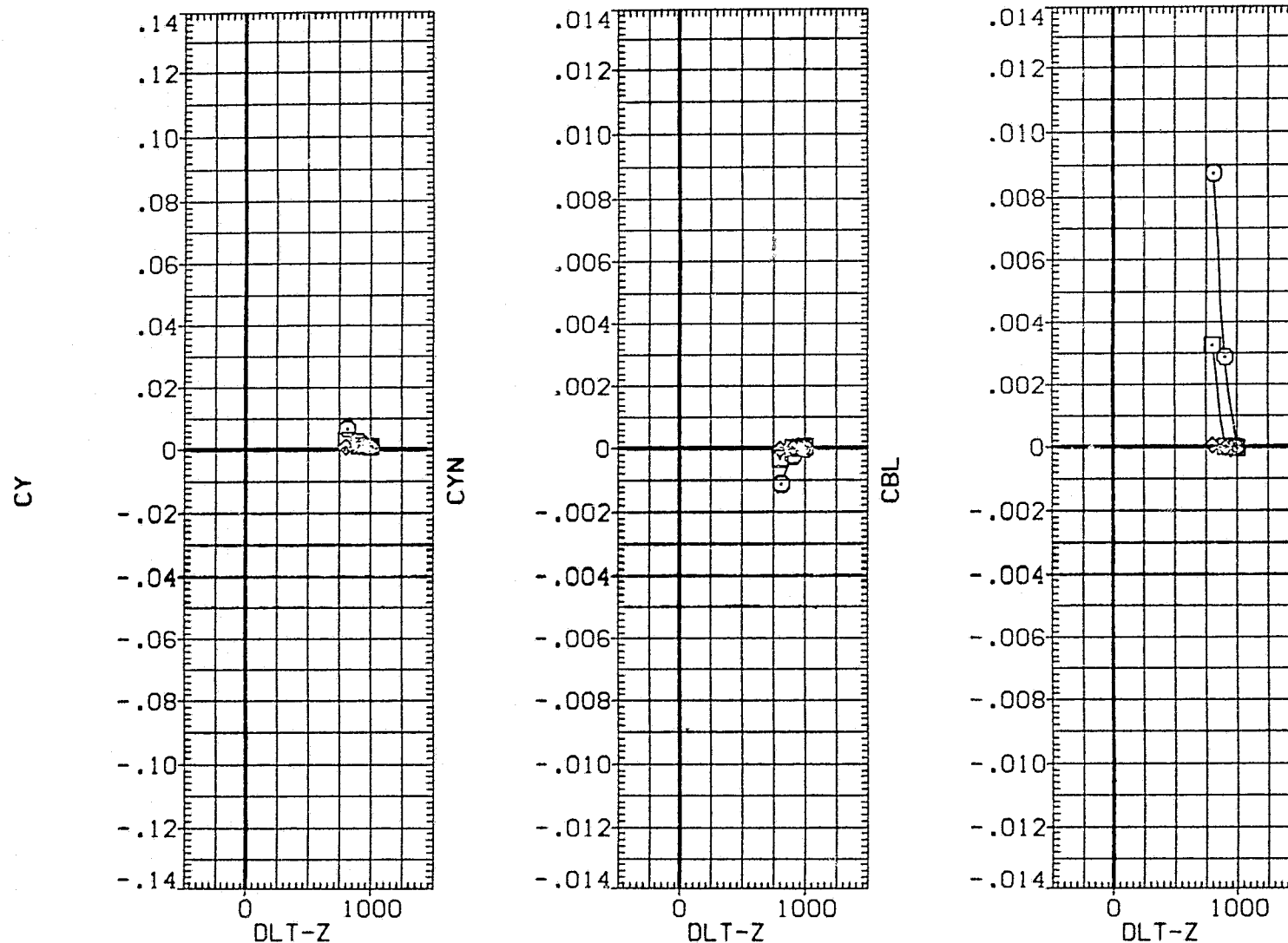


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR329)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.581	60.000	DLTALF	10.000
□	200.410	.000	MACH	-10.000
◇	400.540	3.000	ELEVON	5.930
		AIRCON		.000
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	1000.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

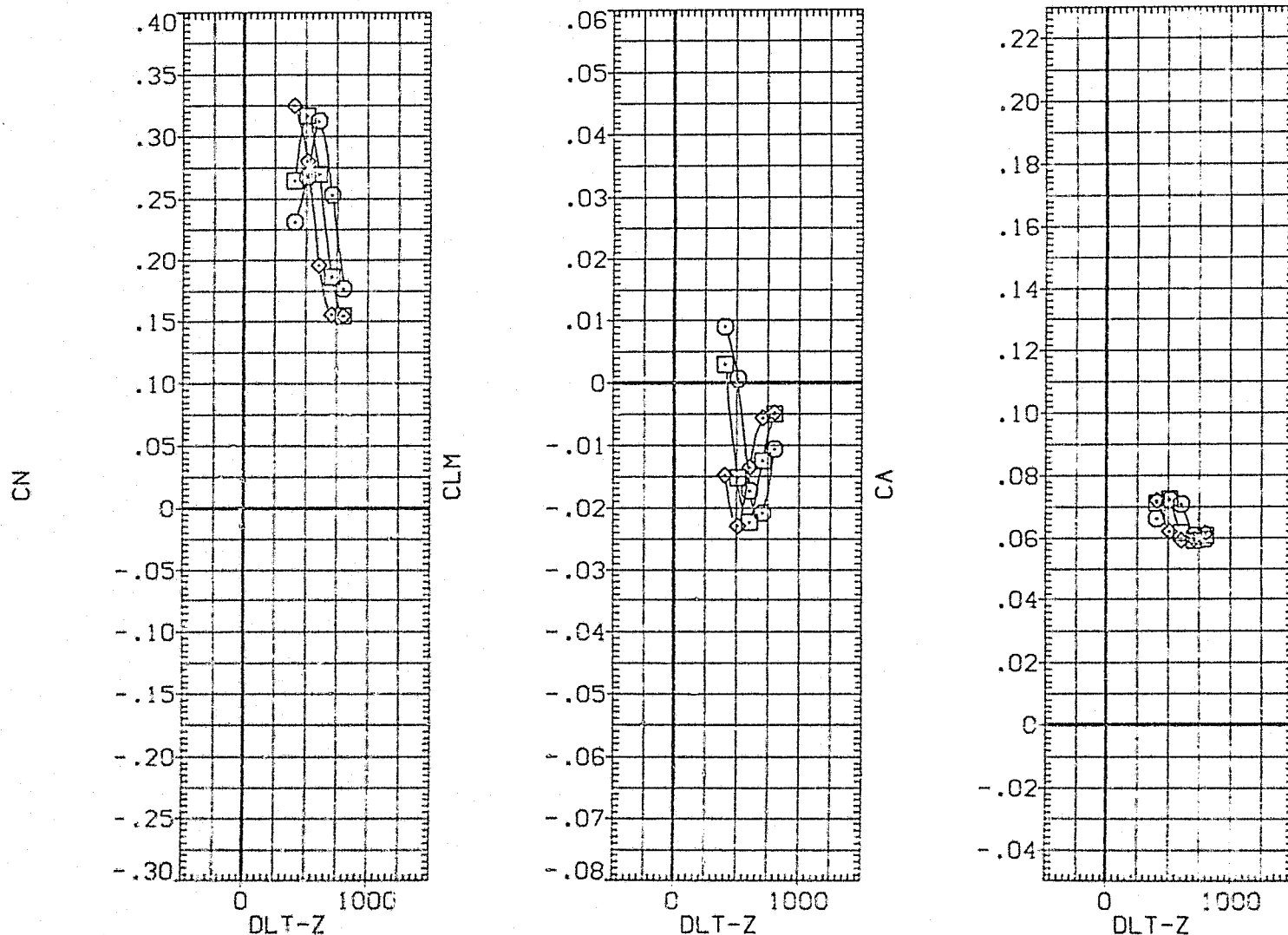


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR329)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.581	60.000	ALPHA	10.000
□	200.410	.000	DLTALF	-10.000
◇	400.540	3.000	MACH	5.930
		.000	ELEVON	.000
		23.000		

REFERENCE INFORMATION	
SREF	2690.0000 SO.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

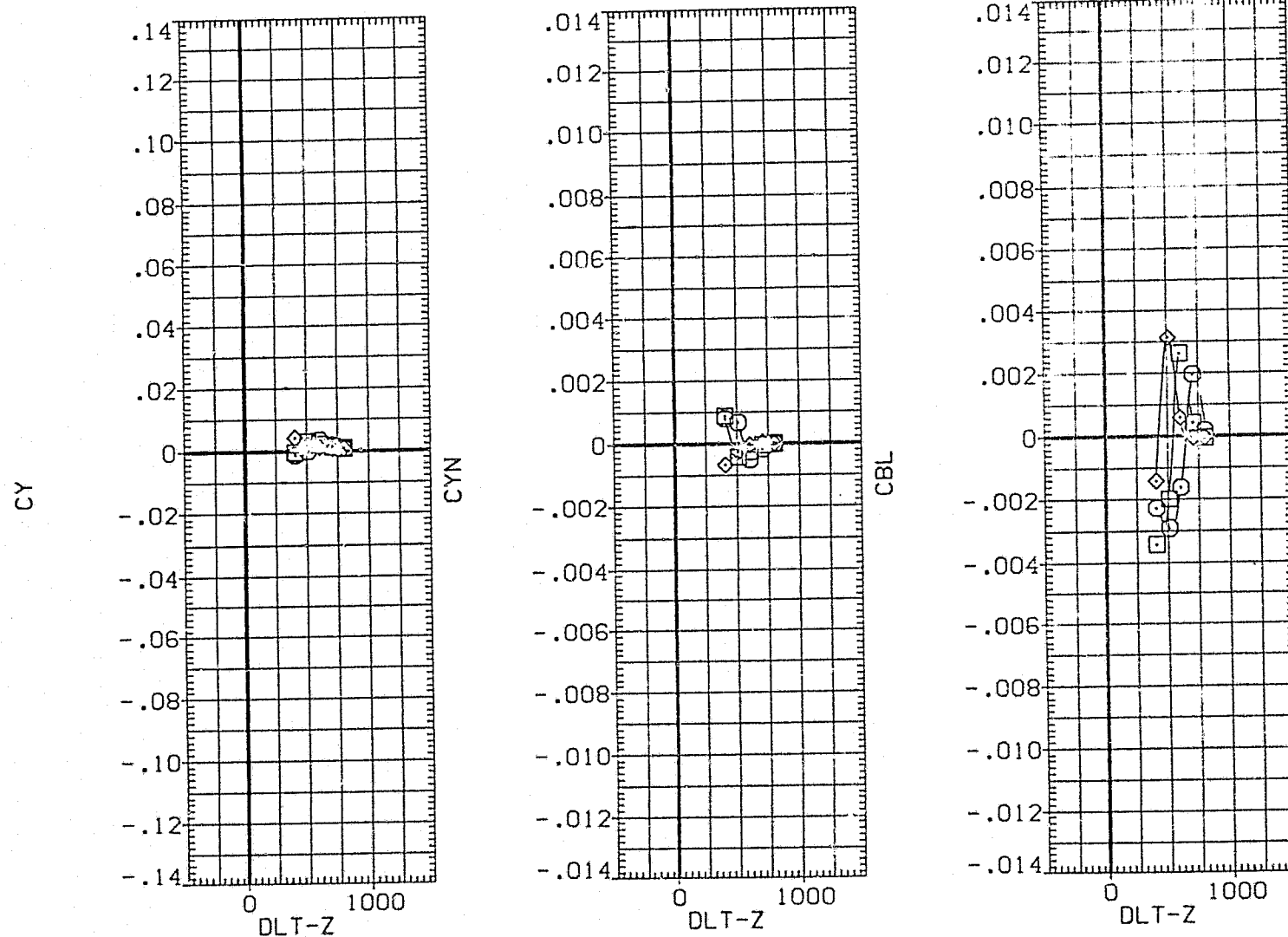


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR330)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.513	60.000	ALPHA 10.000
□	200.550	.000	DLTALF -20.000
◇	400.530	3.000	MACH 5.930
		.000	ELEVON .000
		GRID	23.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

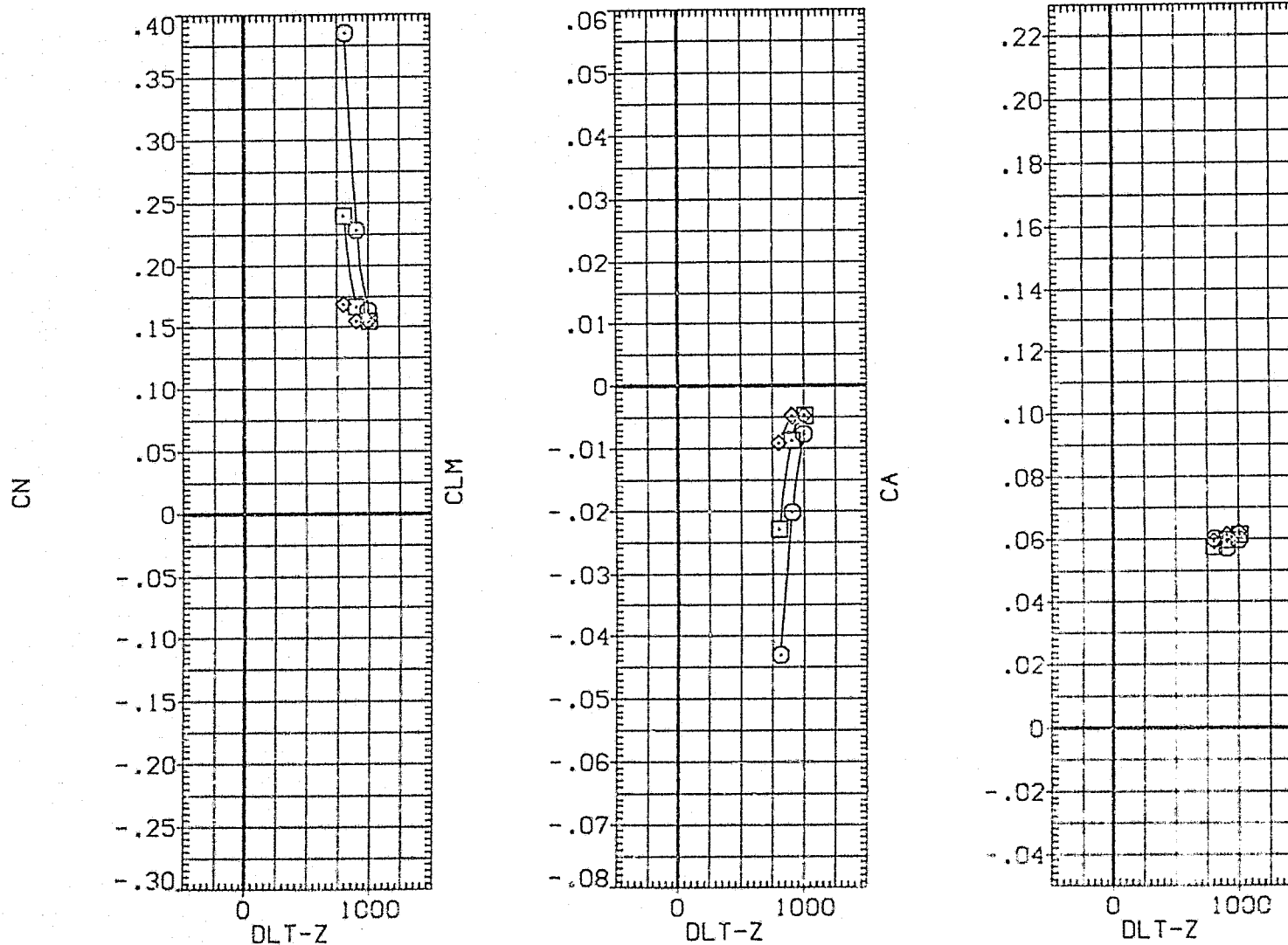


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR330)

SYMBOL
○
□
◇

DLT-X
.513
200.550
400.530

DLT-Y
BETA
DLTBTA
ATLRON
GRID

PARAMETRIC VALUES
60.000
.000
3.000
.000
23.000

ALPHA
DLTALF
MACH
ELEVON

REFERENCE INFORMATION

SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	1089.6000	IN. YG
ZMRP	375.0000	IN. ZC
SCALE	.0100	

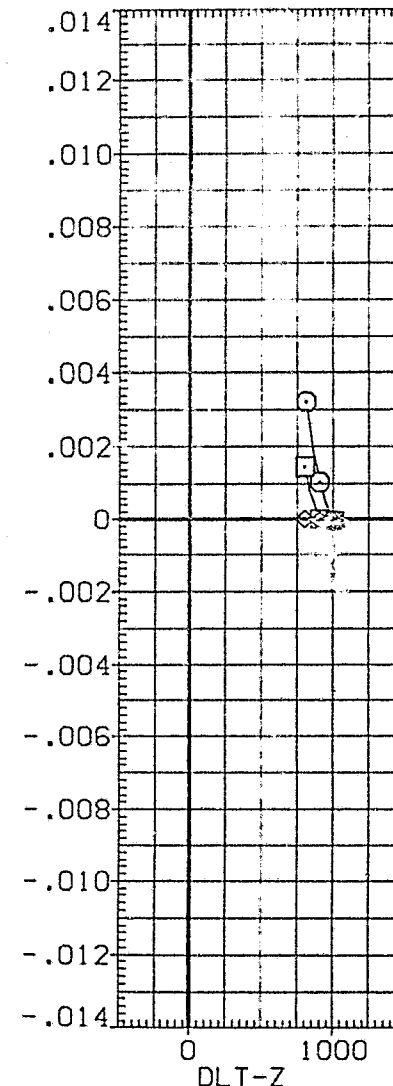
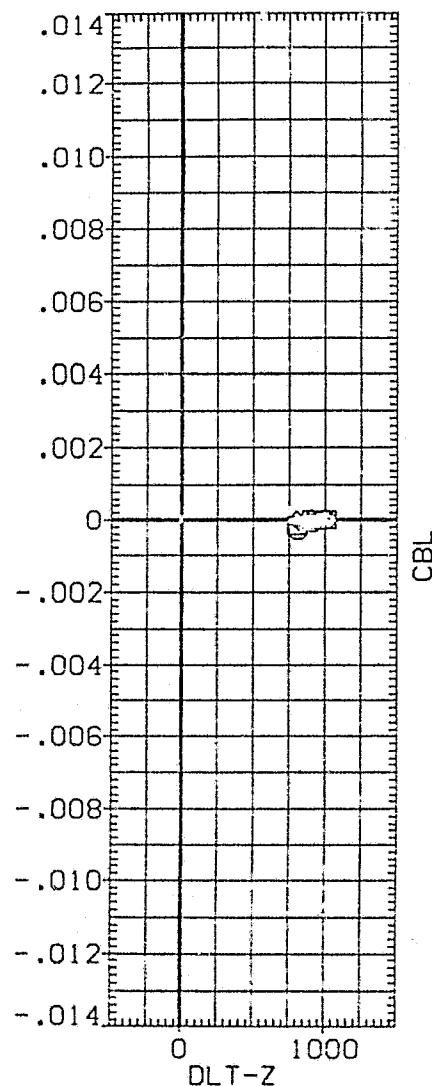
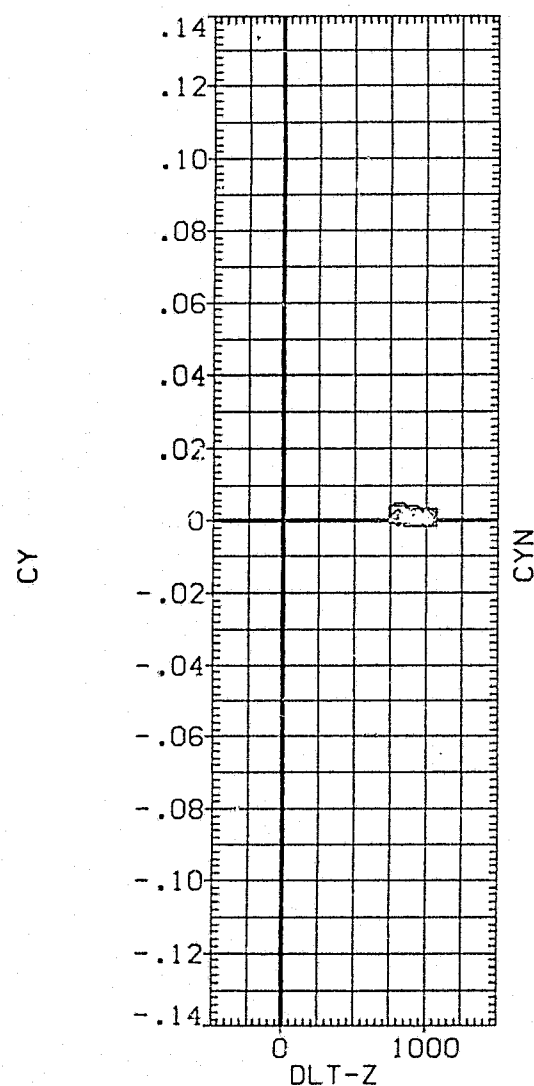


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR331)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.474	60.000	ALPHA	10.000
□	200.540	BETA	3.000	DLTALF -10.000
◇	400.520	DLTBT	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	27.000	PQ 94.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

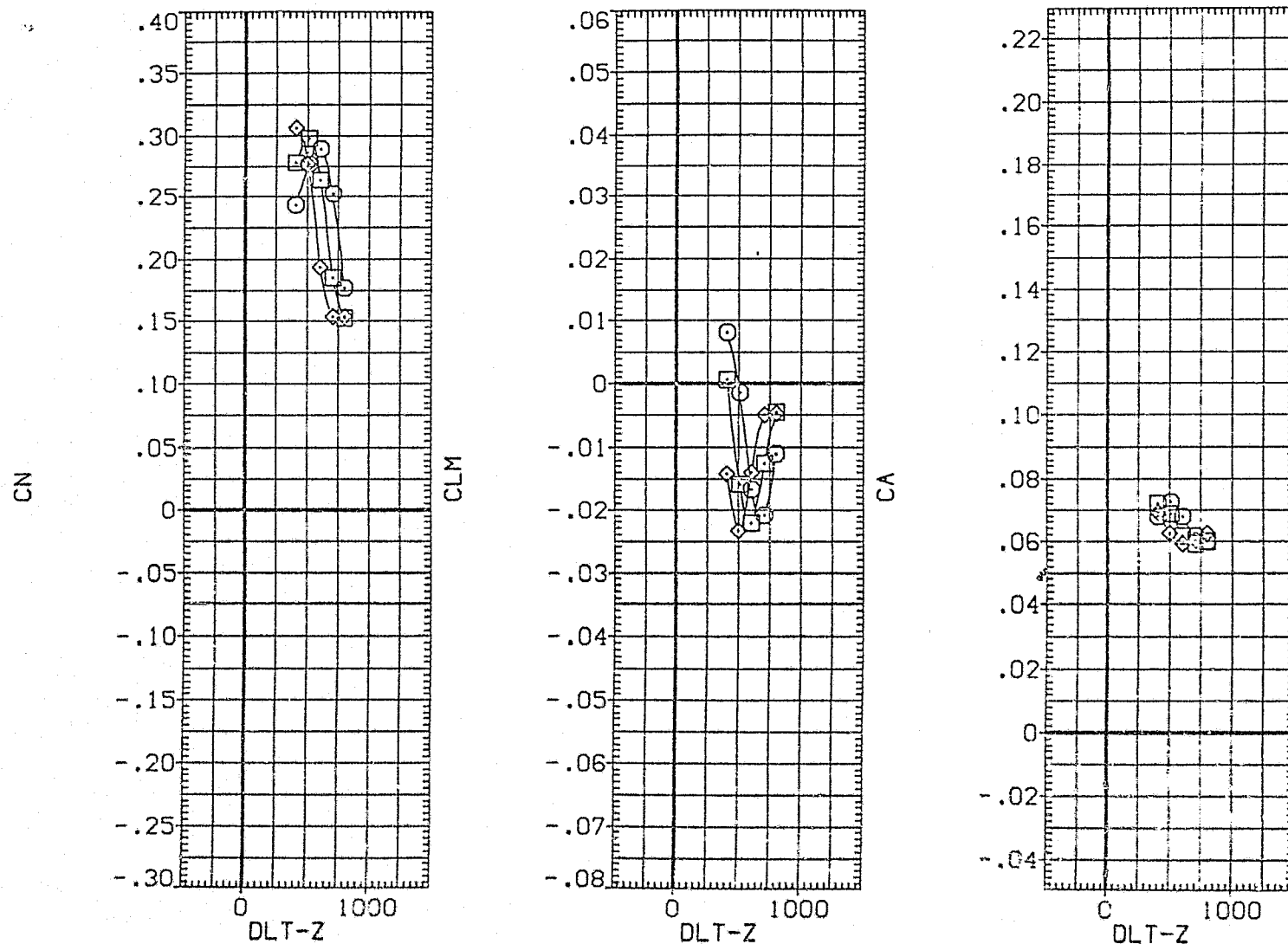


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR331)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.474	60.000	ALPHA	10.000
□	200.540	3.000	DLTALF	-10.000
◇	400.520	.000	MACH	5.930
		.000	ELEVON	.000
		27.000	PG	94.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

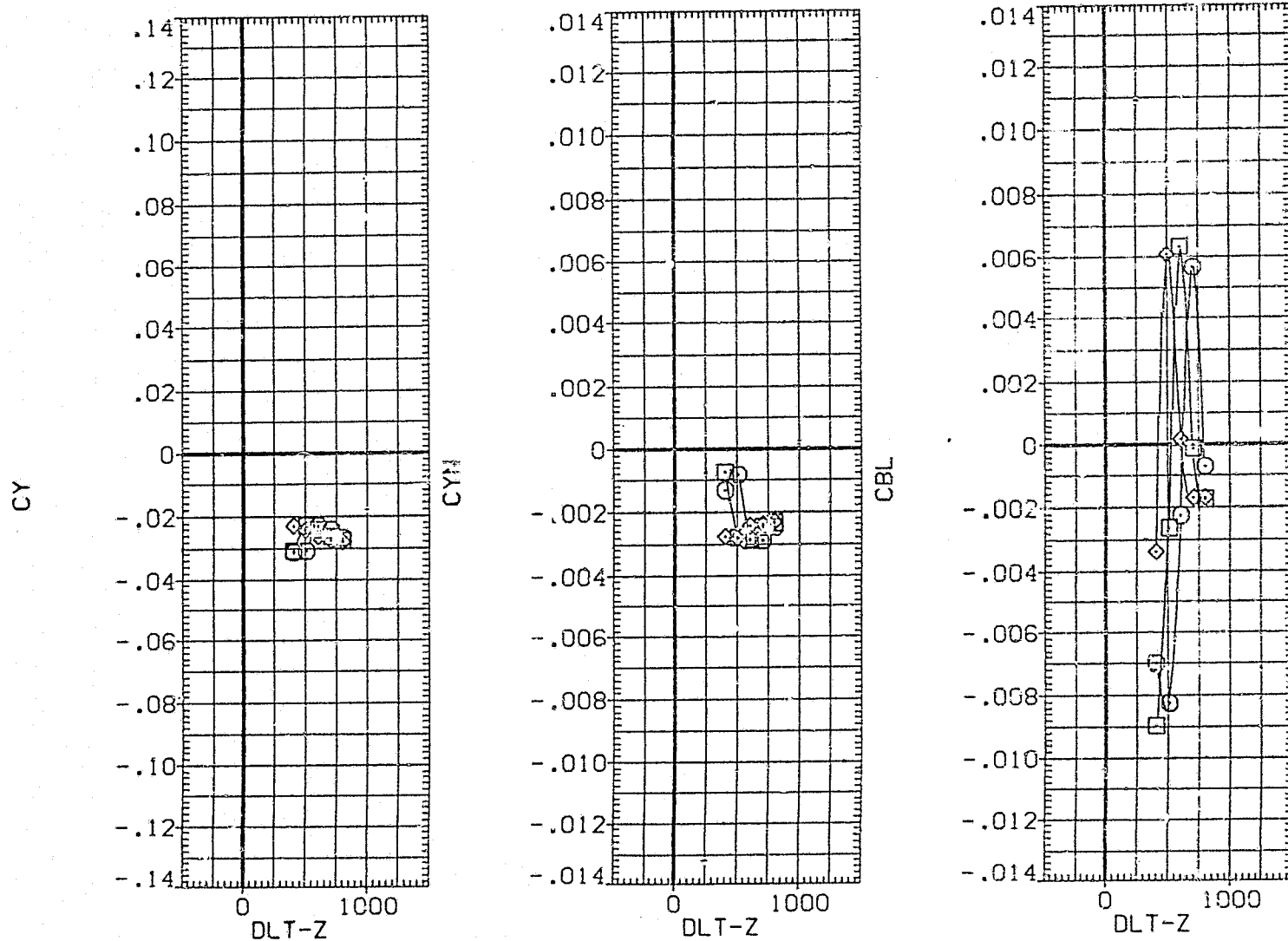


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR332)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.544	60.000	ALPHA 10.000
□	200.560	BETA 3.000	DLTALF -20.000
◇	400.540	DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 27.000	PG 94.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

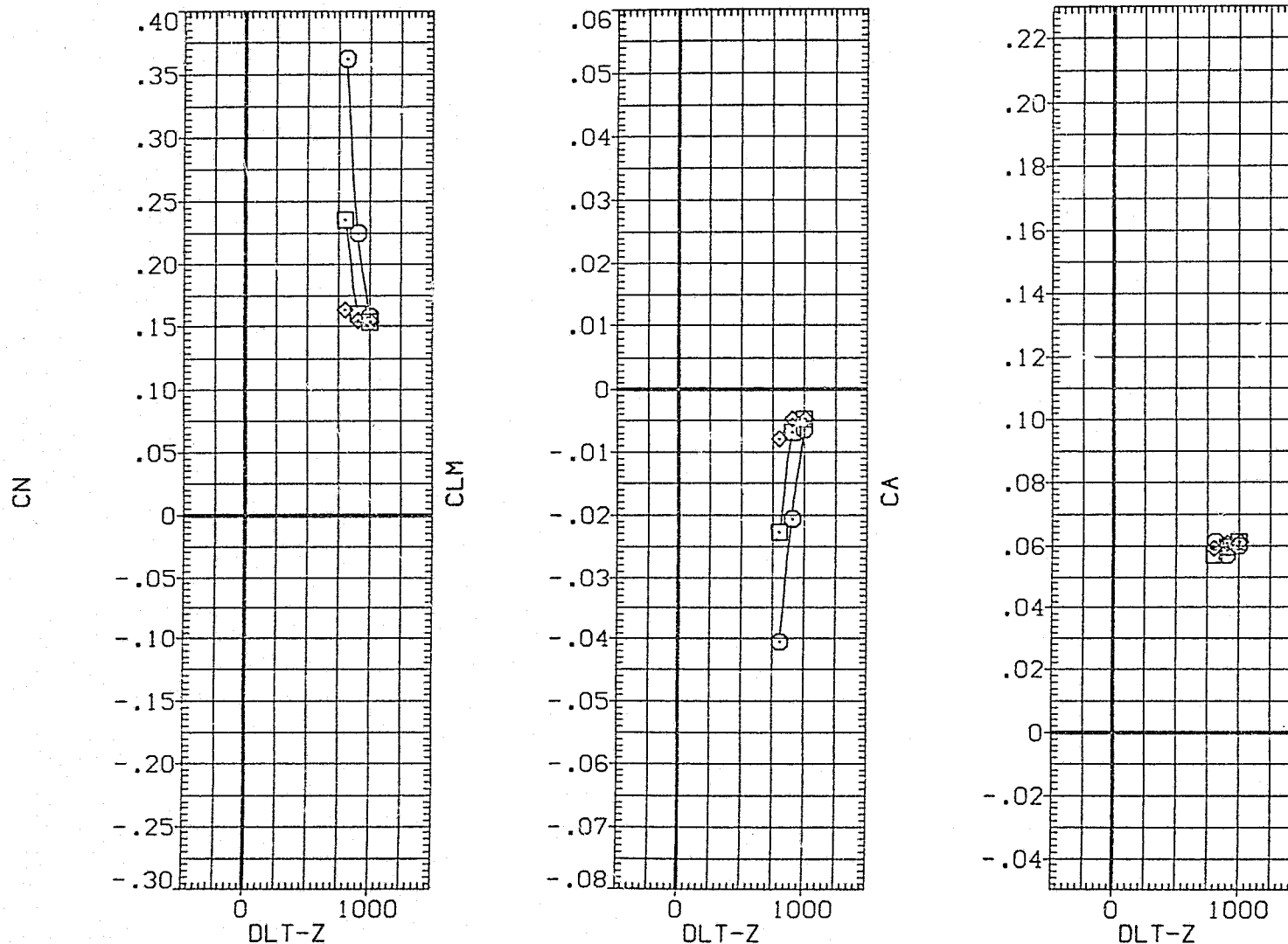


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR332)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	DLTALF
○	.544	60.000	ALPHA	10.000	-20.000
□	200.560	BETA	3.000	MACH	5.930
◇	400.540	DLTBTA	.000	ELEVON	.000
		AILRON	.000	PO	94.000
		GRID	27.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

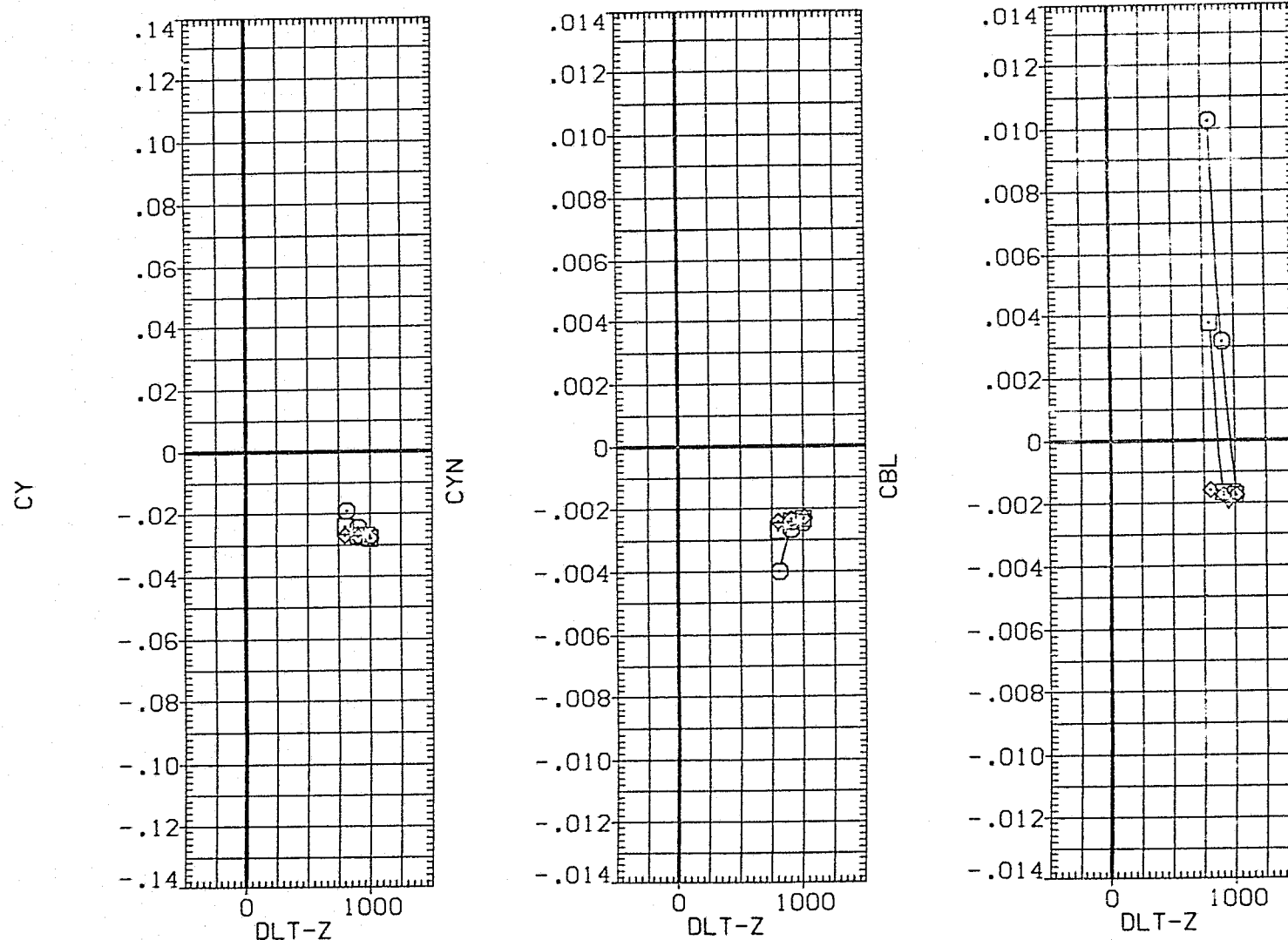


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR333)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.471	60.000	ALPHA 10.000
□	200.540	BETA 3.000	DLTALF -10.000
◇	400.610	DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 27.000	P0 94.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

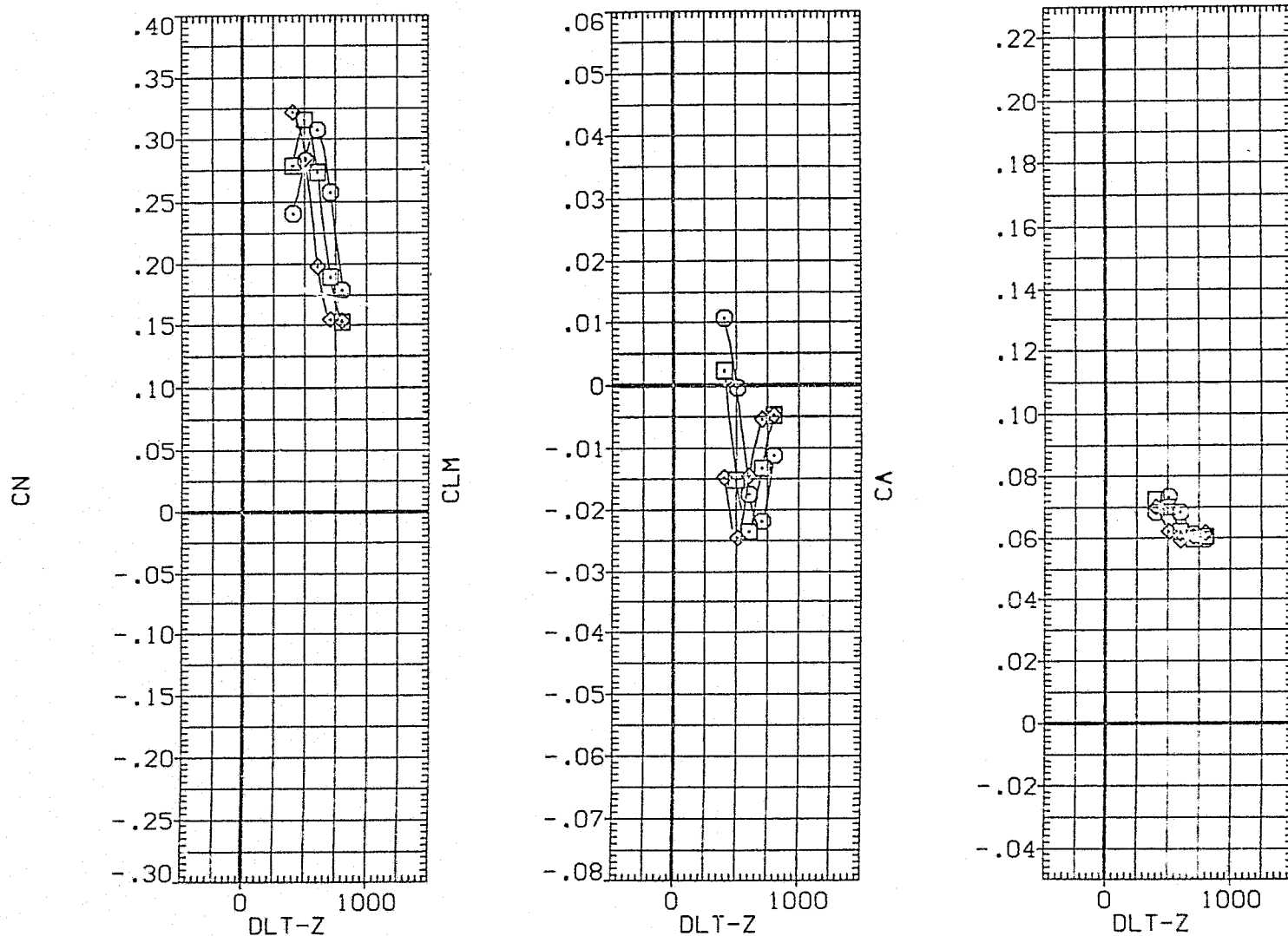


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR333)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	10.000
○	.471	60.000	BETA	3.000	DLTALF -10.000
□	200.540	3.000	DLTBT	3.000	MACH 5.930
◇	400.610	.000	AILRON	.000	ELEVON .000
		GRID	27.000	P0	94.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XC
YMRF	.0000	IN. YC
ZMRF	375.0000	IN. ZC
SCALE	.0100	

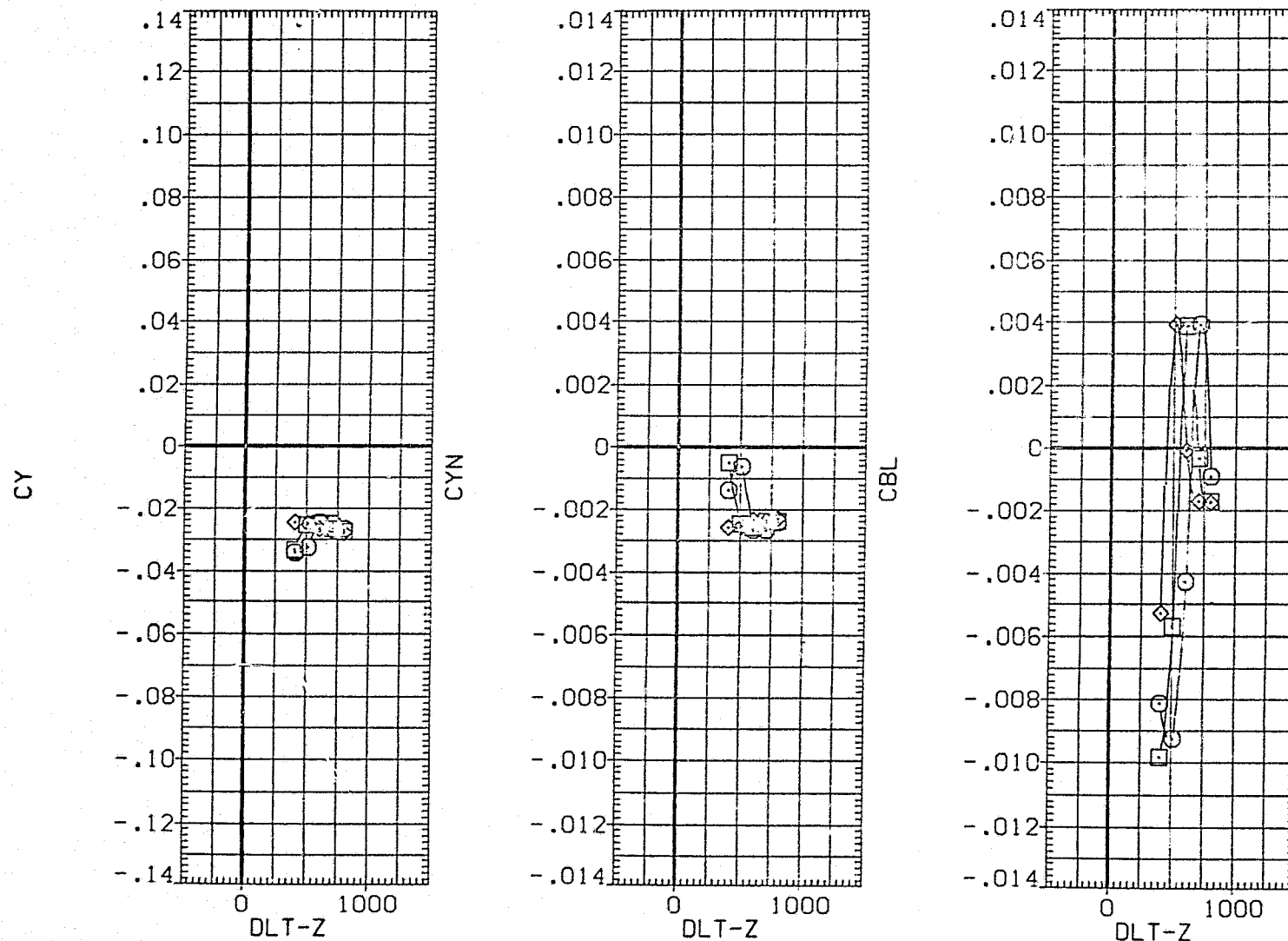


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR334)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.548	60.000	ALPHA	10.000
□	200.520	BETA	3.000	DLTALF -20.000
◇	400.520	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	27.000	PG 94.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
SCALE	375.0000	IN. Z0

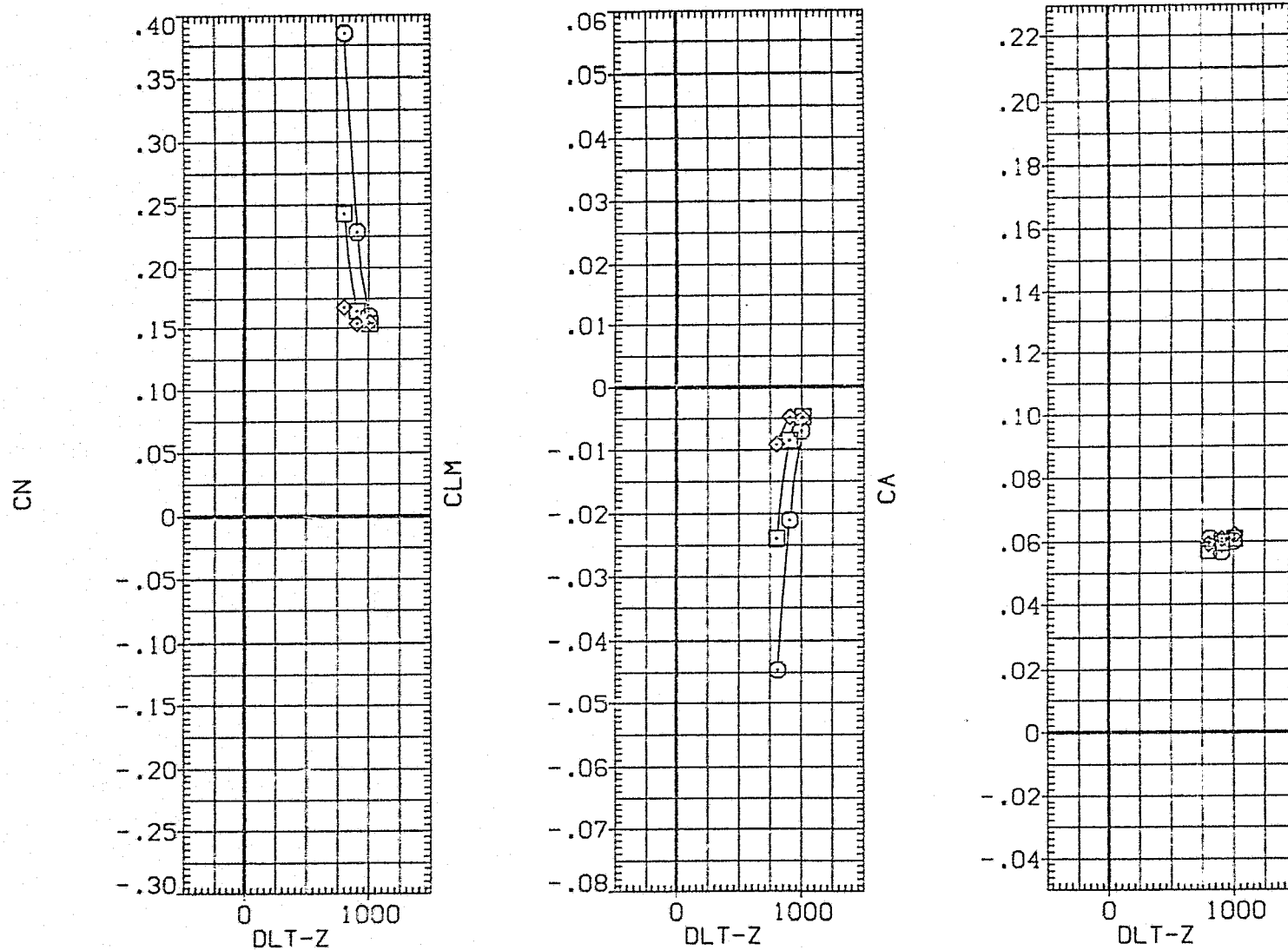


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR334)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.548	60.000	ALPHA 10.000
□	200.520	BETA 3.000	DLTALF -20.000
◇	400.520	DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 27.000	PO 94.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

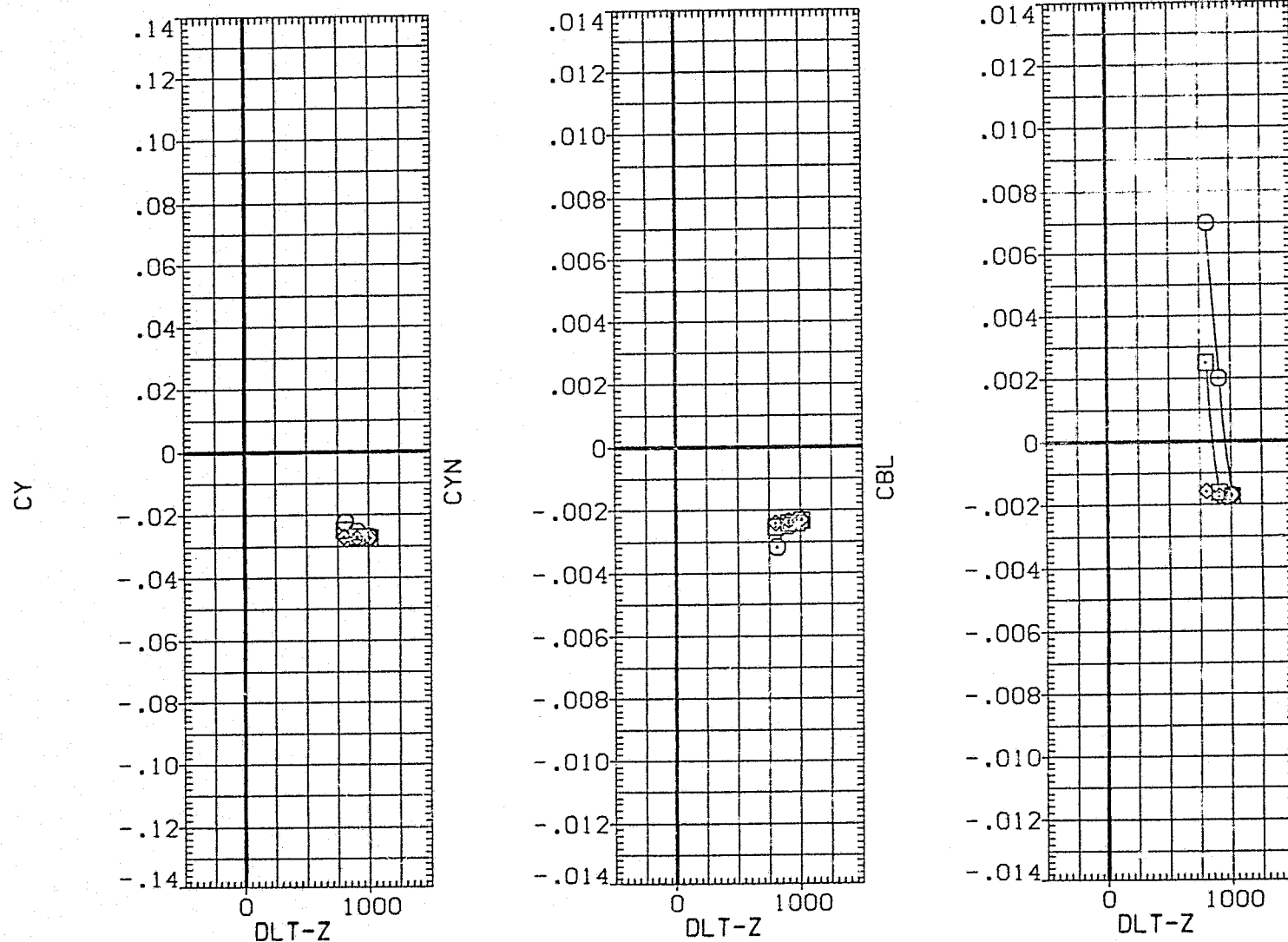


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR251)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.554	60.000		-10.000	
□	200.410	BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. ZC
SCALE	.0100	

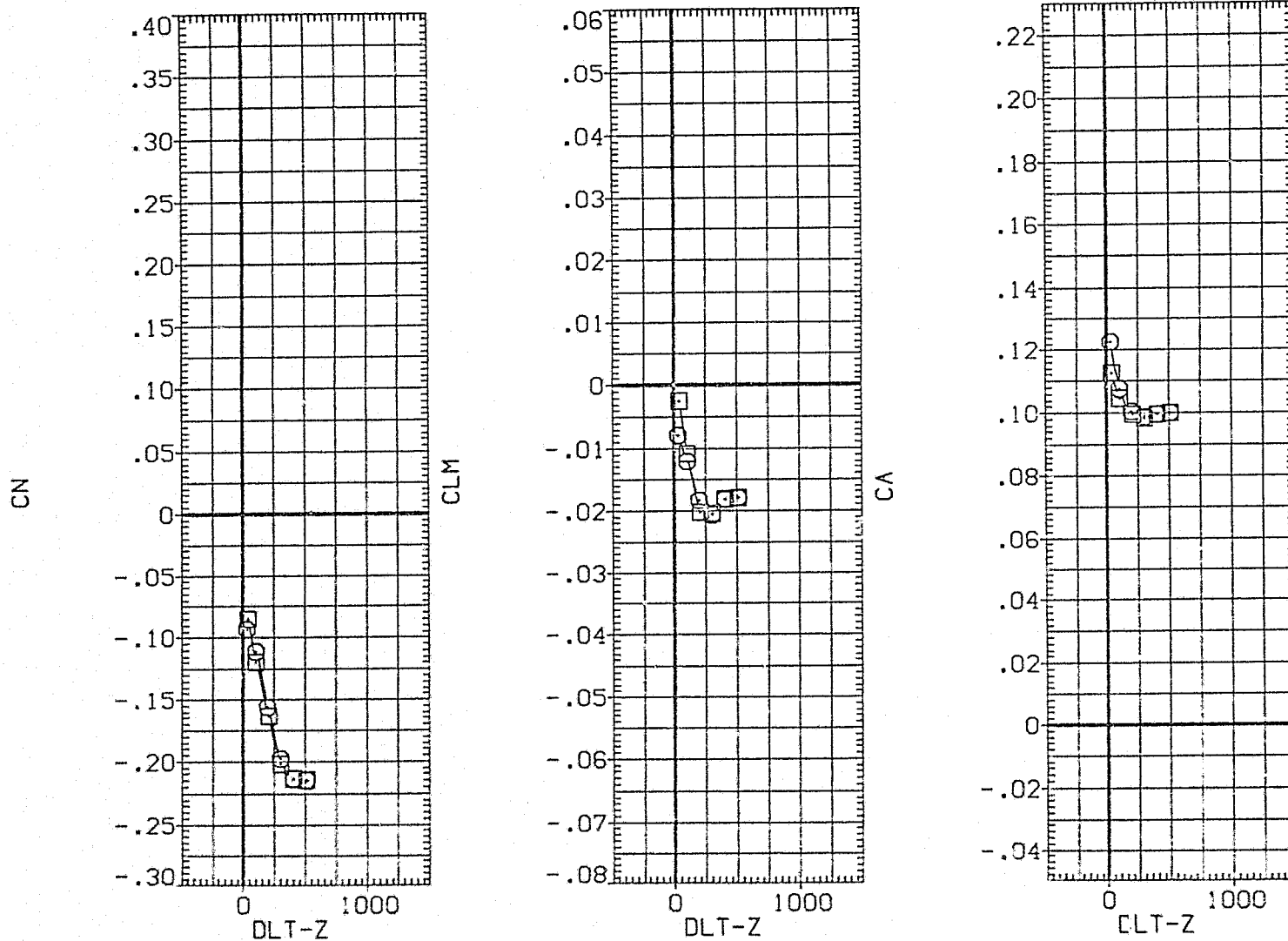


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR251)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.554	DLT-Y 60.000 ALPHA -10.000
□	200.410	BETA 3.000 DLTALF .000
		DLTBTA .000 MACH 5.930
		AILRON .000 ELEVON .000
		GRID 8.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

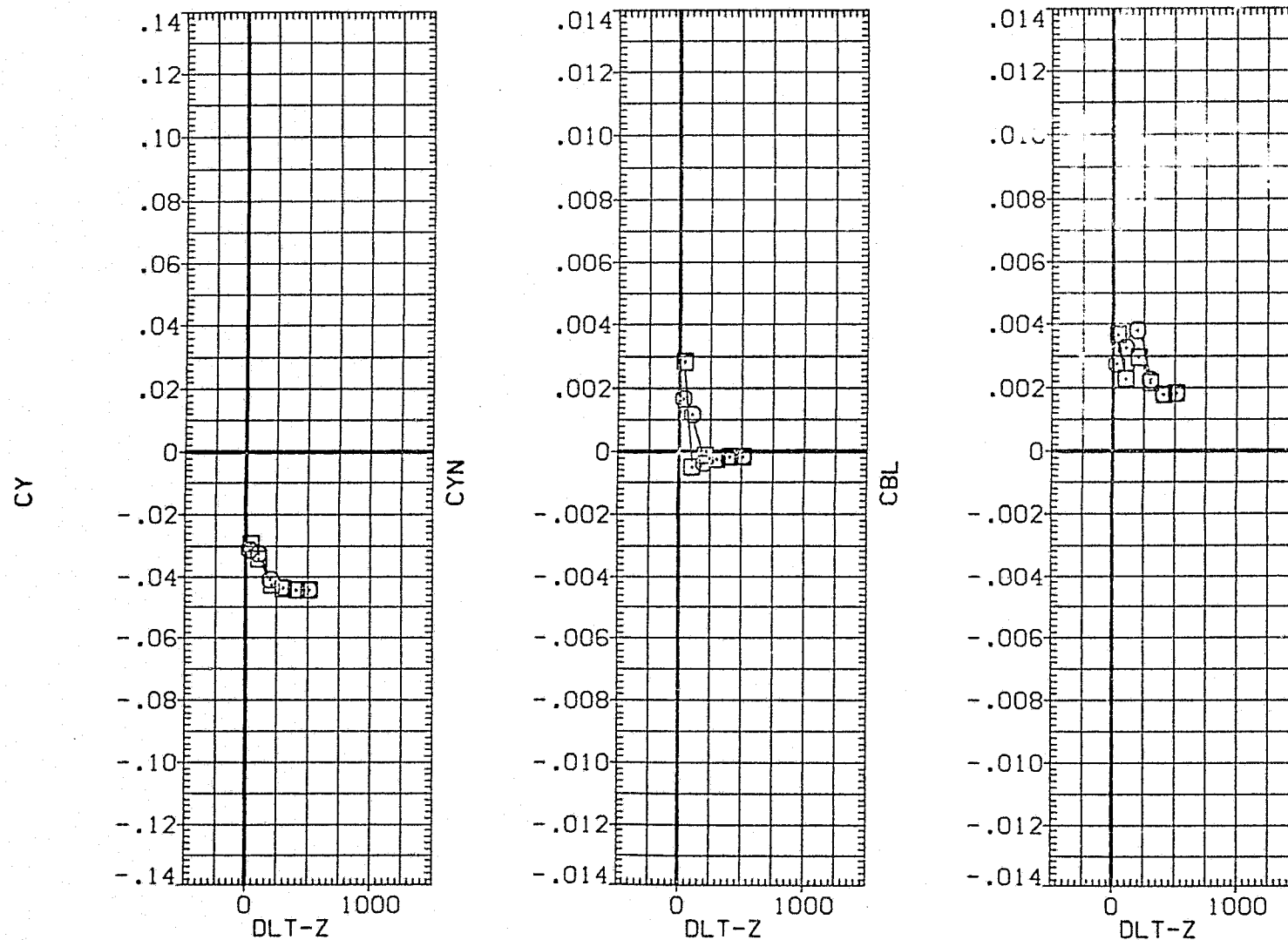


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR252)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.418	60.000	ALPHA	-10.000	
□	200.490	BETA	3.000	DLTALF	-10.000
◇	400.500	DLTBTA	.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

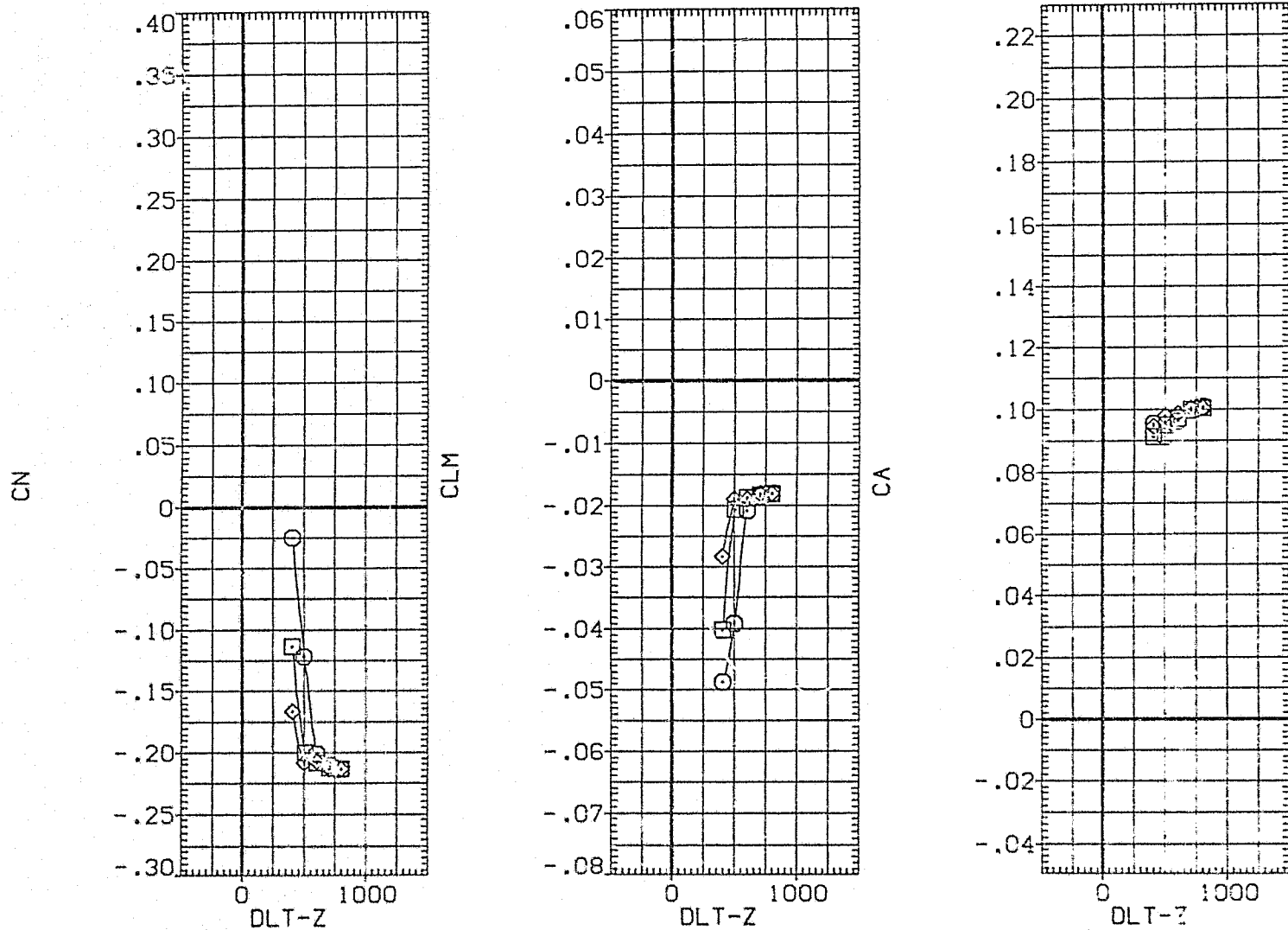


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR252)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.418	60.000	ALPHA -10.000
□	200.490	BETA 3.000	DLTALF -10.000
◇	400.500	DLTBTA .000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 8.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. Z0
SCALE	.0100	

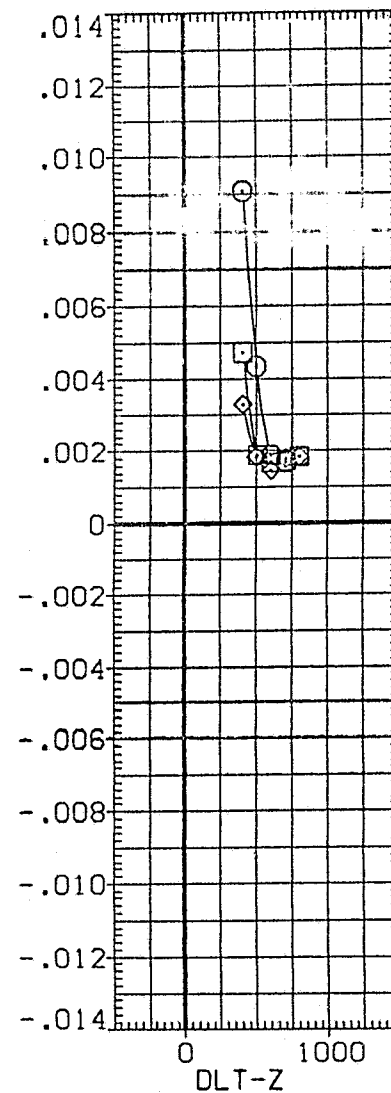
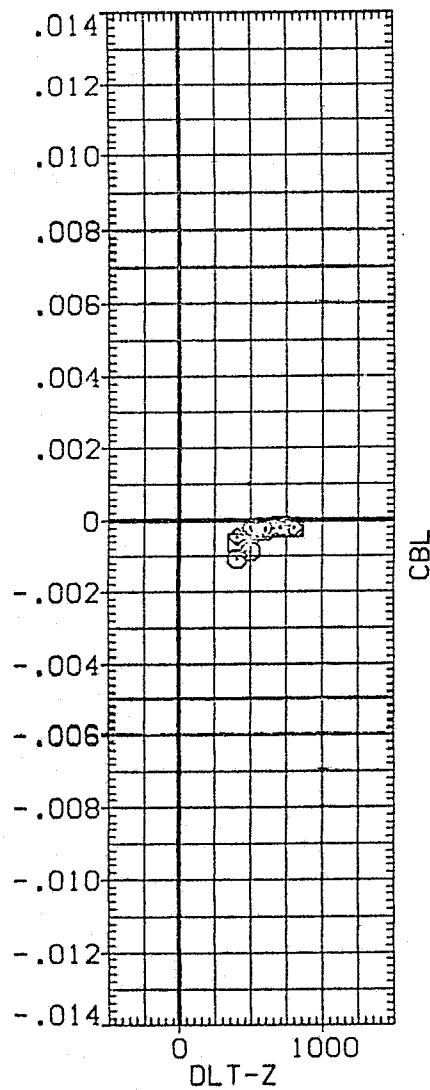
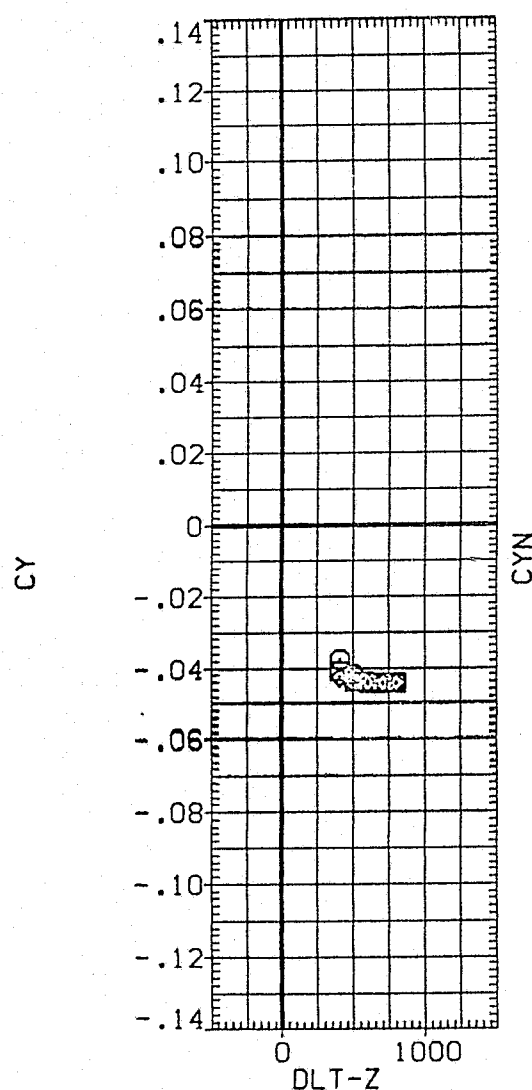


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR253)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.586	BETA	60.000	ALPHA	-10.000
□	200.590	DLTBTA	3.000	DLTALF	.000
		AILRON	3.000	MACH	5.930
		GRID	.000	ELEVON	.000
			8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

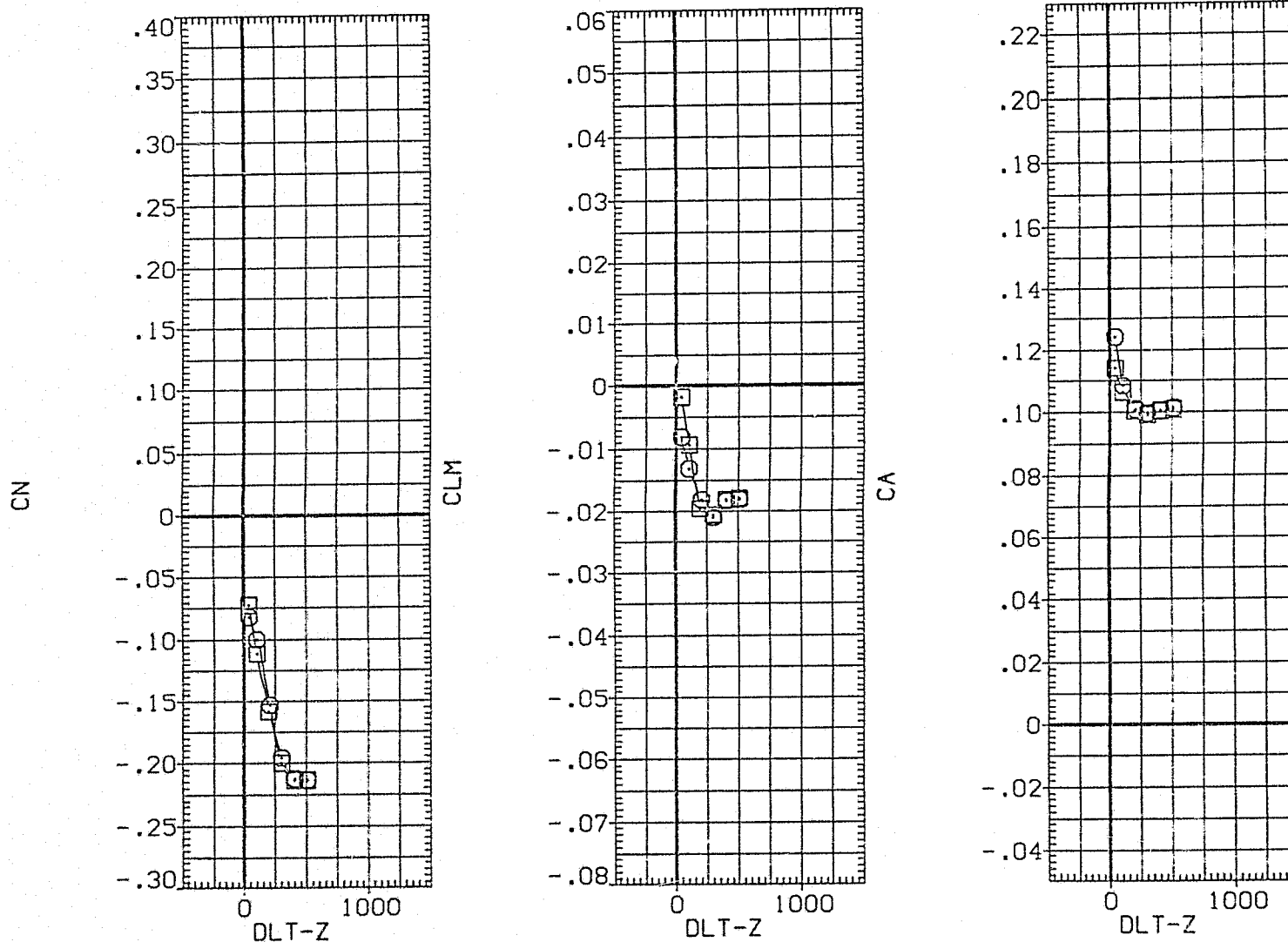


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR253)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.586	DLT-Y	60.000	ALPHA	-10.000
□	200.590	BETA	3.000	DLTALF	.000
		DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

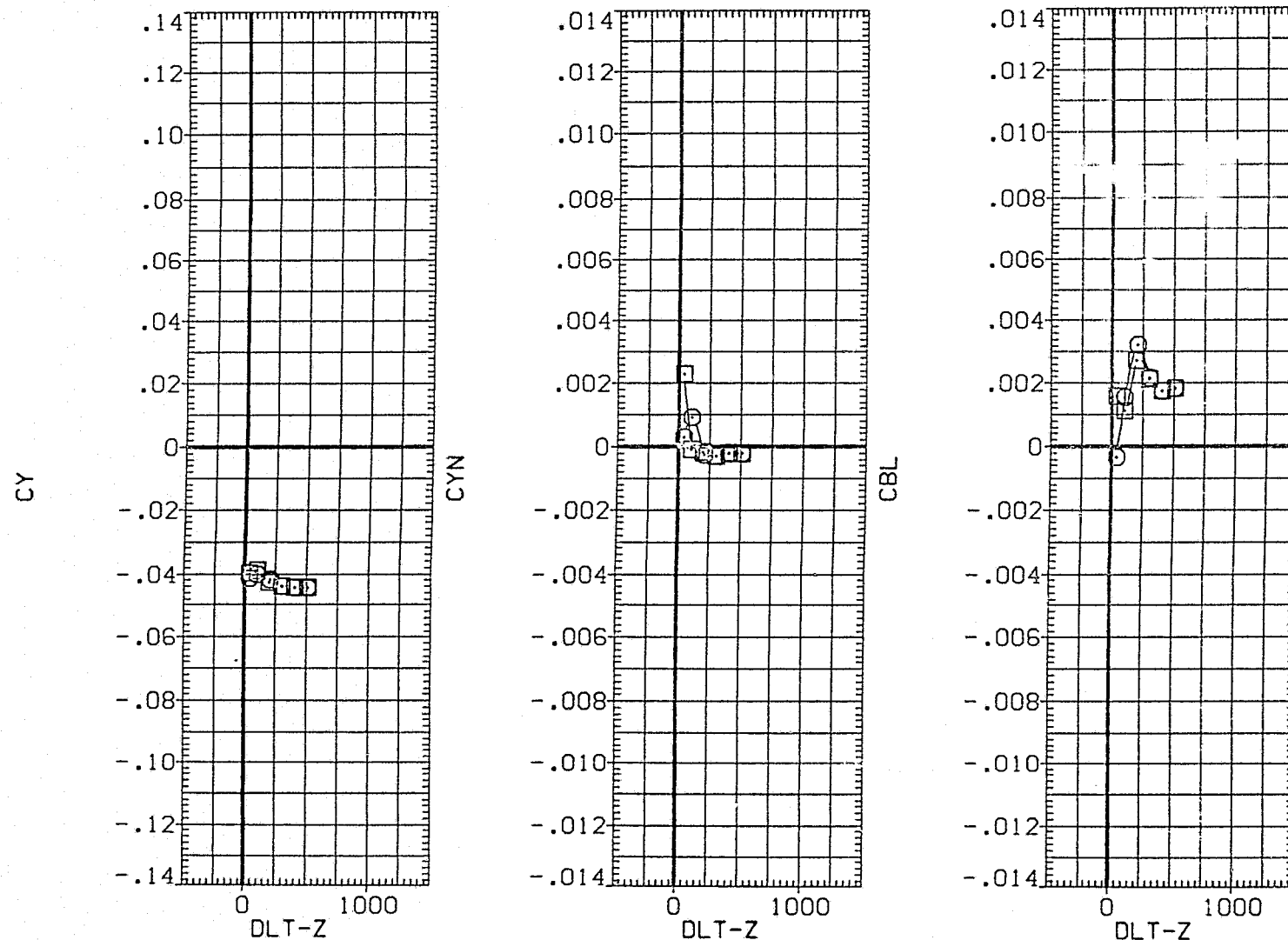


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR254)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.524	60.000	BETA	-10.000
□	200.500	3.000	DLTALF	-10.000
◇	400.490	3.000	MACH	5.930
		.000	ELEVON	.000
		8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

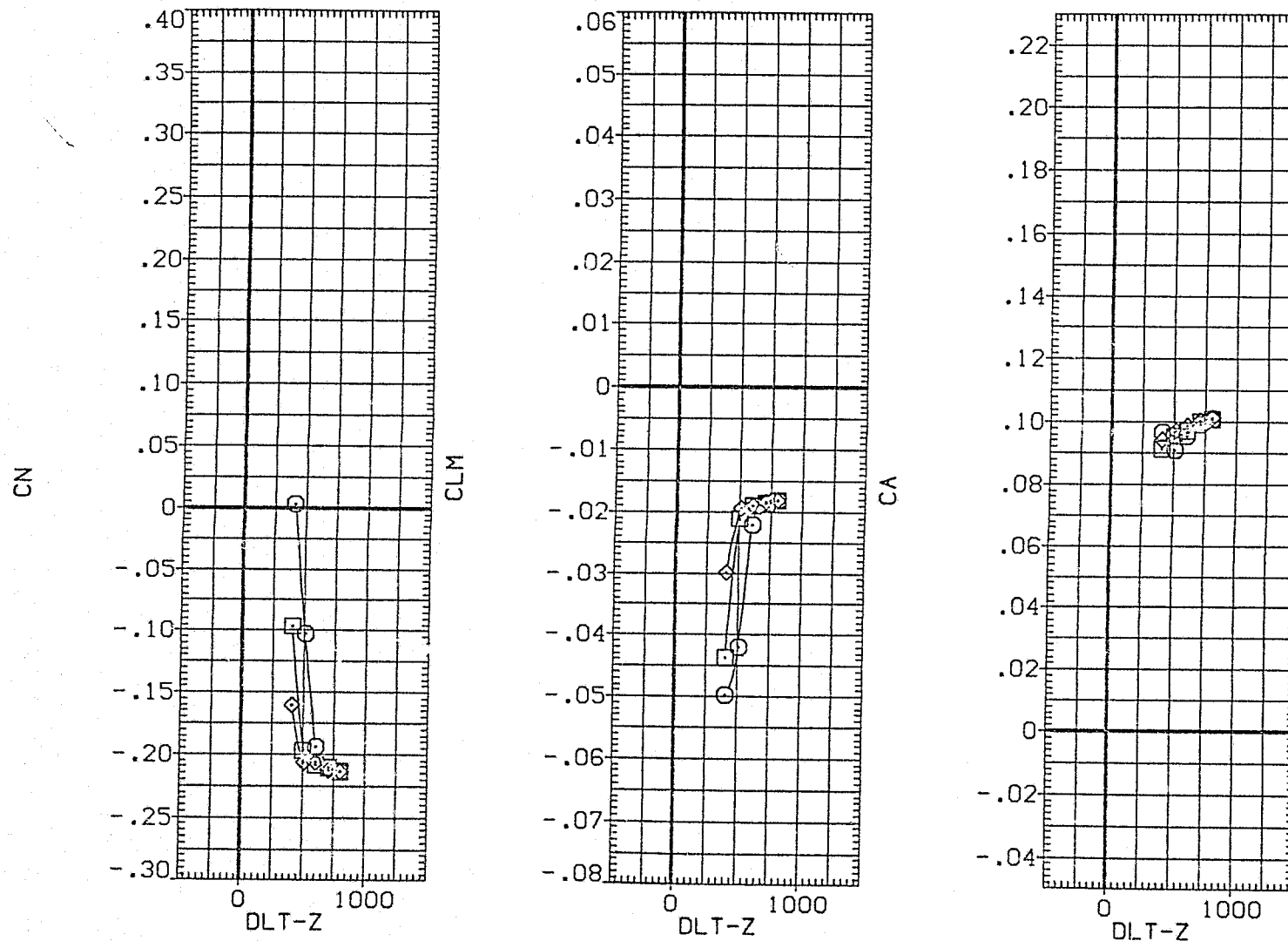


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR254)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.524	60.000	ALPHA	-10.000
□	200.500	BETA	3.000	DLTALF -10.000
◇	400.490	DLTBTM	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	8.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

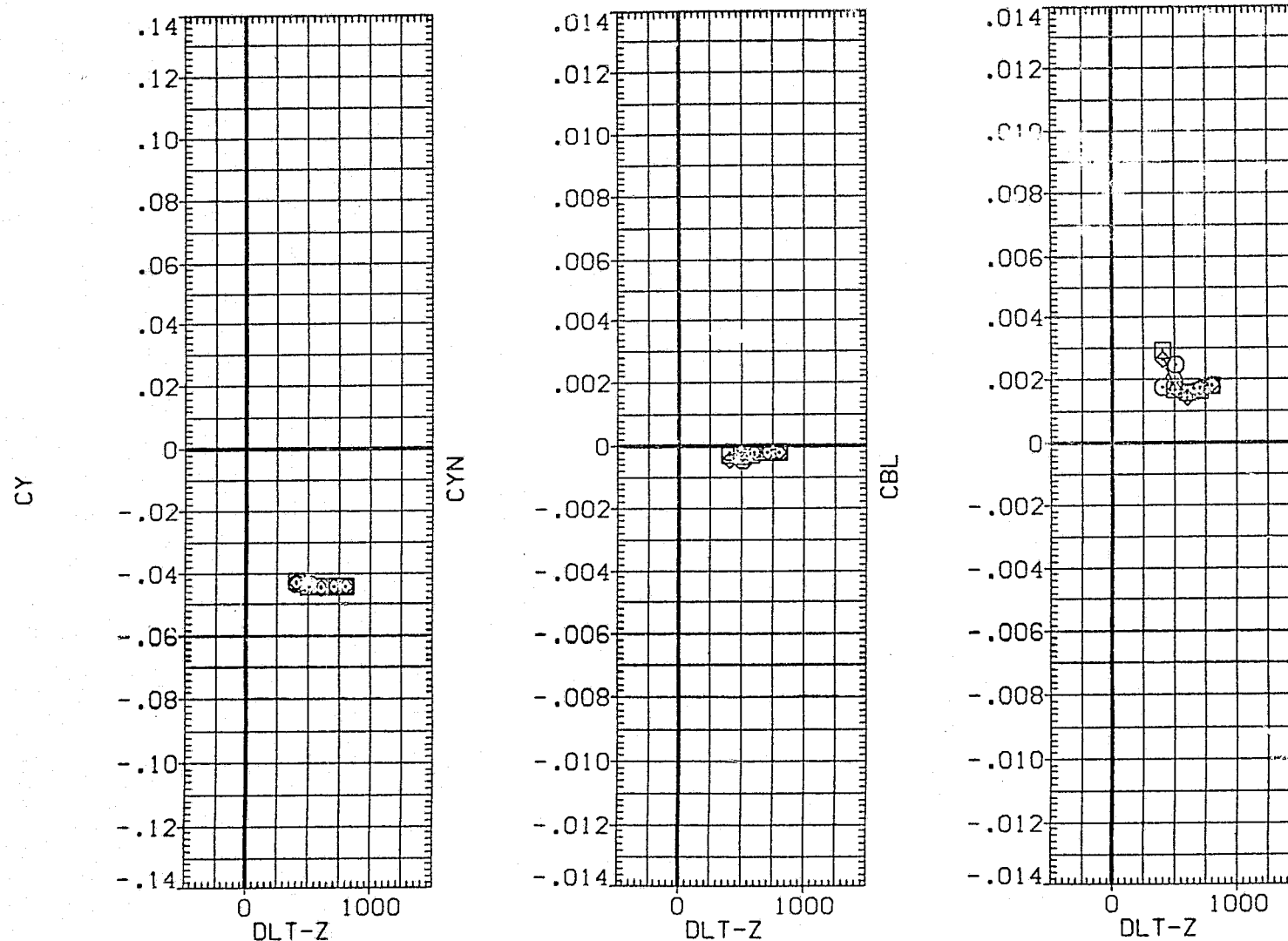


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR255)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.436	60.000	ALPHA	-10.000
□	200.430	.000	DLTALF	.000
◇	400.510	.000	MACH	5.930
		.000	ELEVON	.000
		9.000	GRID	

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

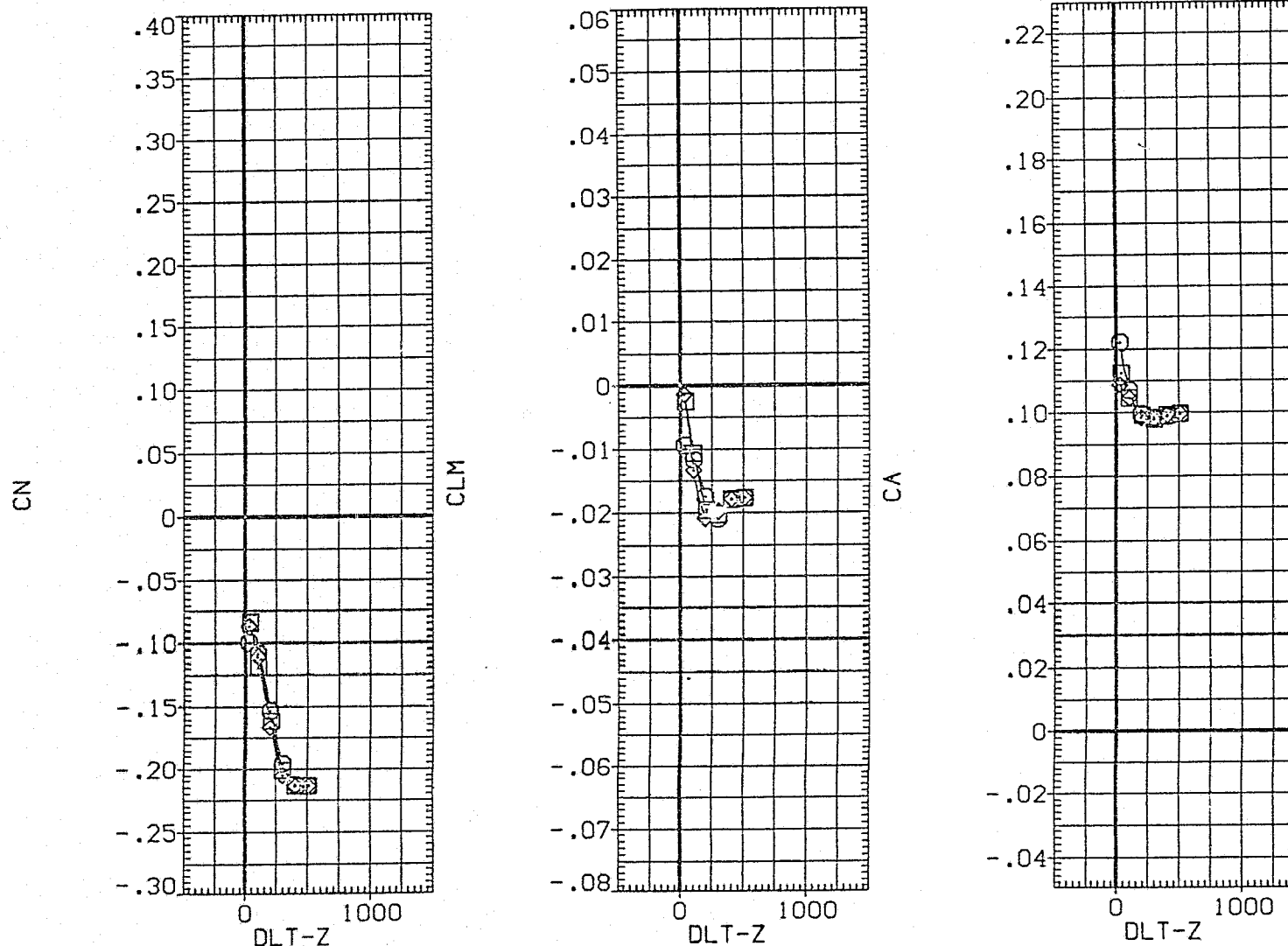


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR255)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.436	BETA	60.000	ALPHA
□	200.430	DLTBTA	.000	DLTALF
◇	400.510	AILRON	.000	MACH
		GRID	.000	ELEVON
			9.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

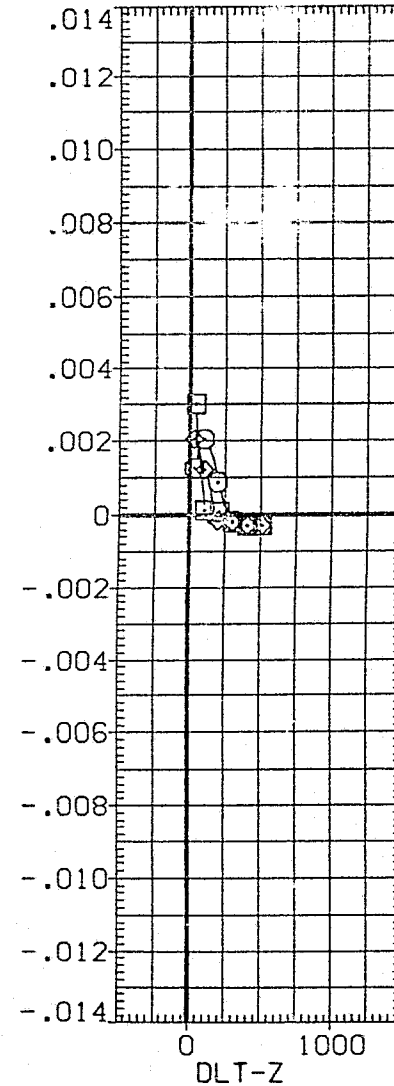
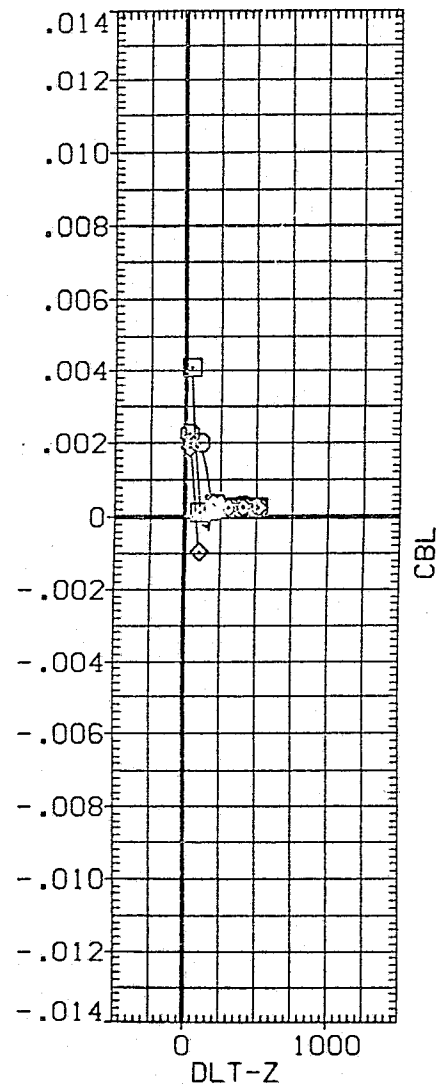
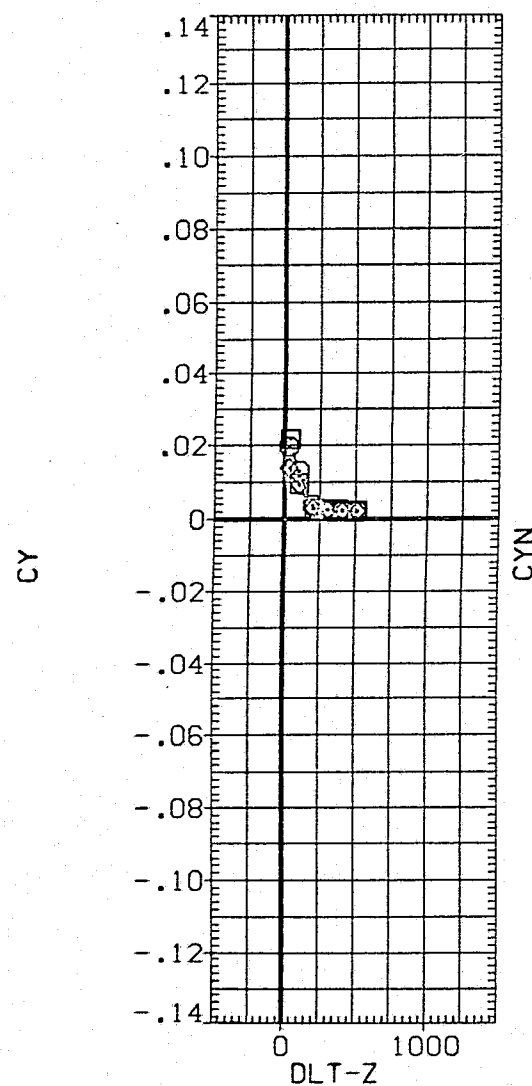


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR256)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.378	60.000	ALPHA	-10.000	
□	200.420	.000	DLTALF	-10.000	
◇	400.390	.000	MACH	5.930	
		.000	ELEVON	.000	
		9.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

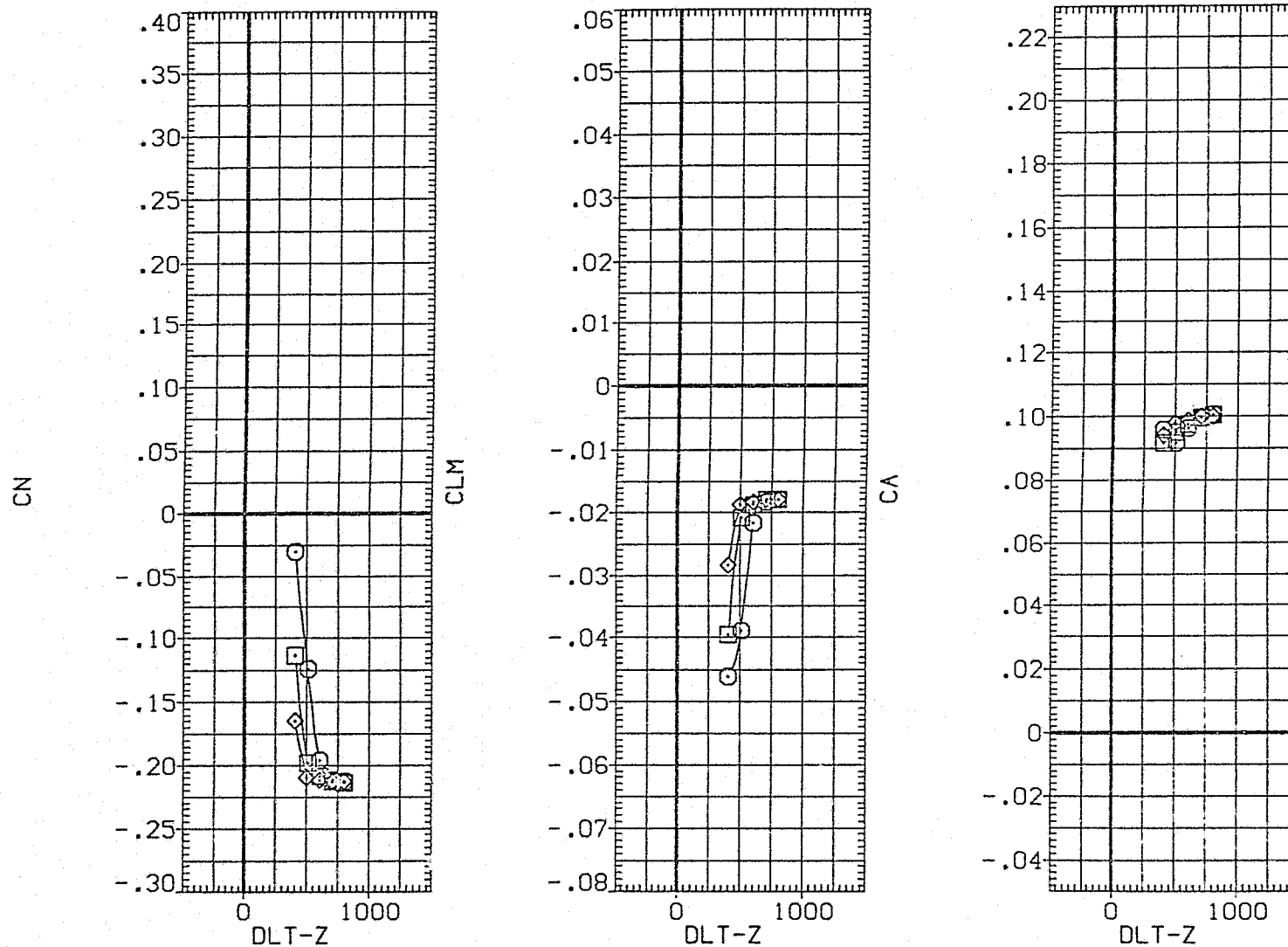


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR256)

SYMBOL
○
□
◇

DLT-X
.378
200.420
400.390

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
60.000
.000
.000
.000
9.000

ALPHA
DLTALF
MACH
ELEVON

-10.000
-10.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

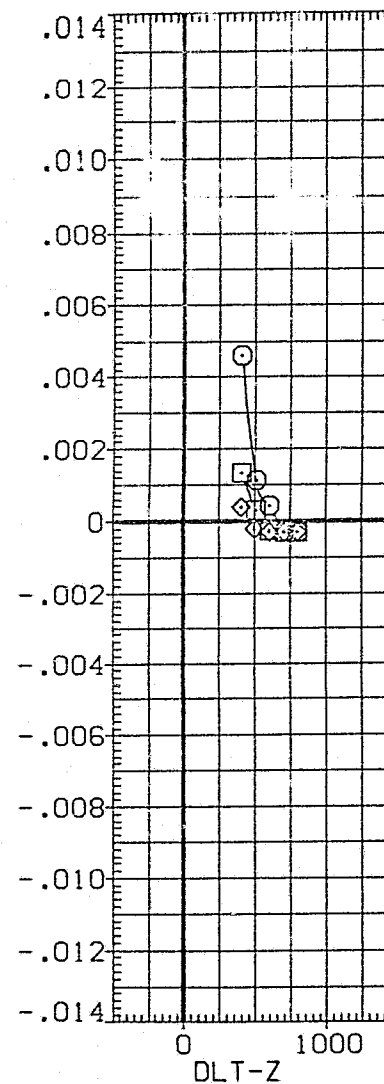
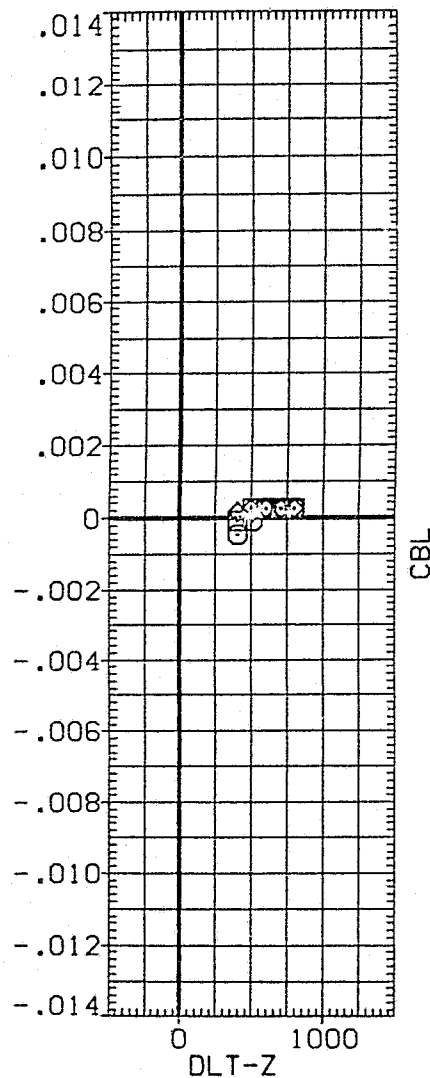
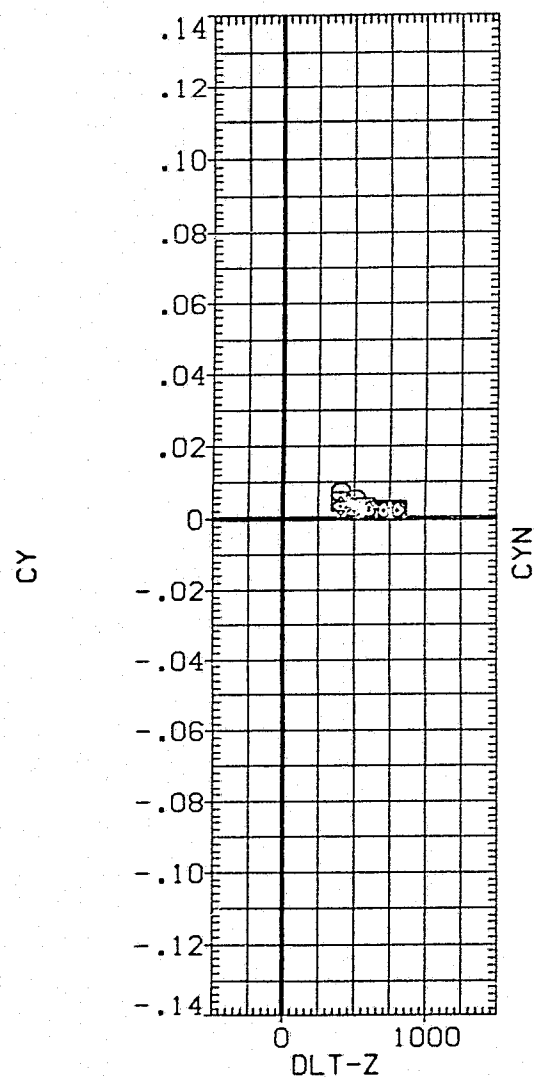


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR257)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.370	60.000	ALPHA	-10.000
□	200.370	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	.000
		9.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

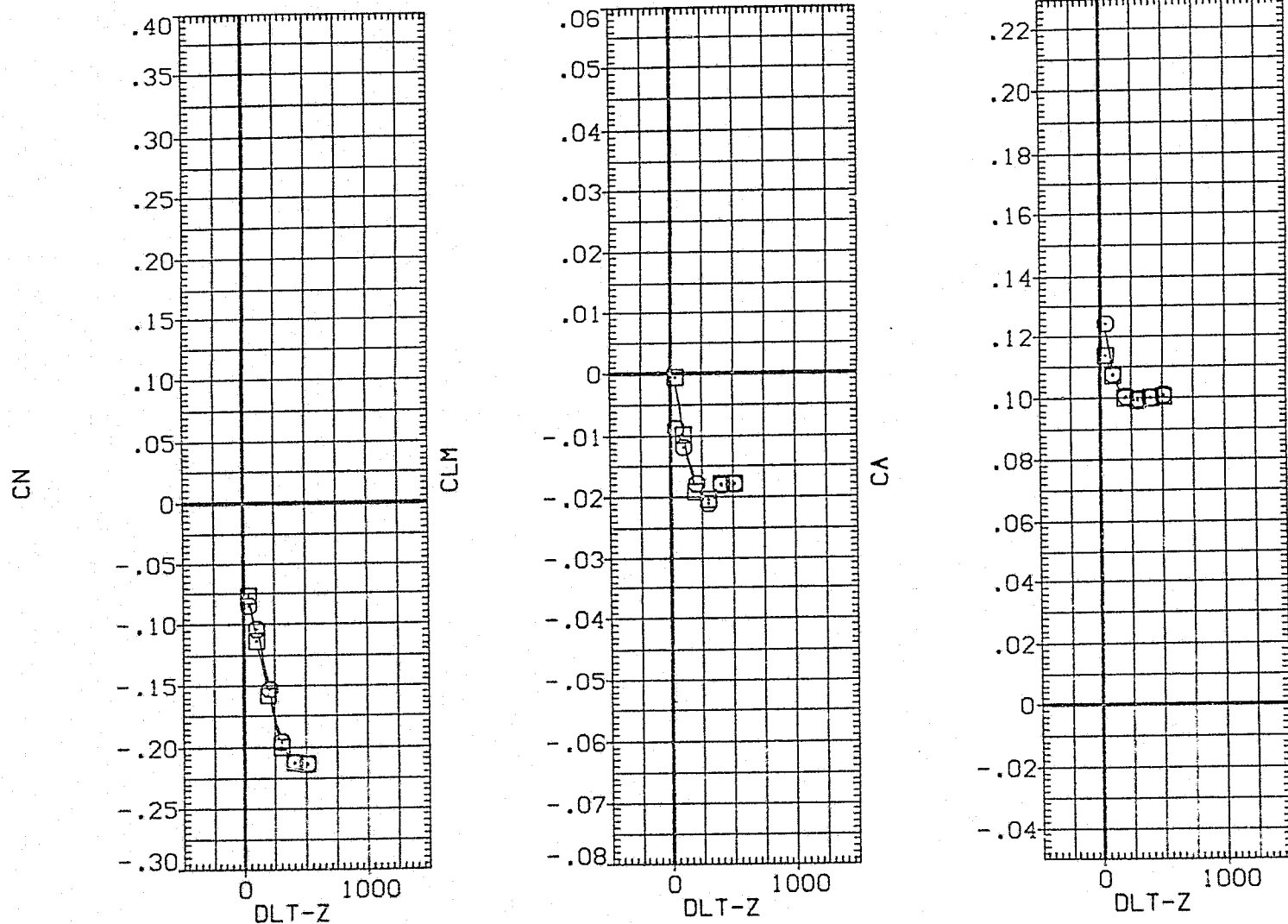


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR257)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.370	60.000	DLTALF	-10.000	
□	200.370	.000	MACH	.000	
		3.000	ELEVON	5.930	
		.000		.000	
		9.000			

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

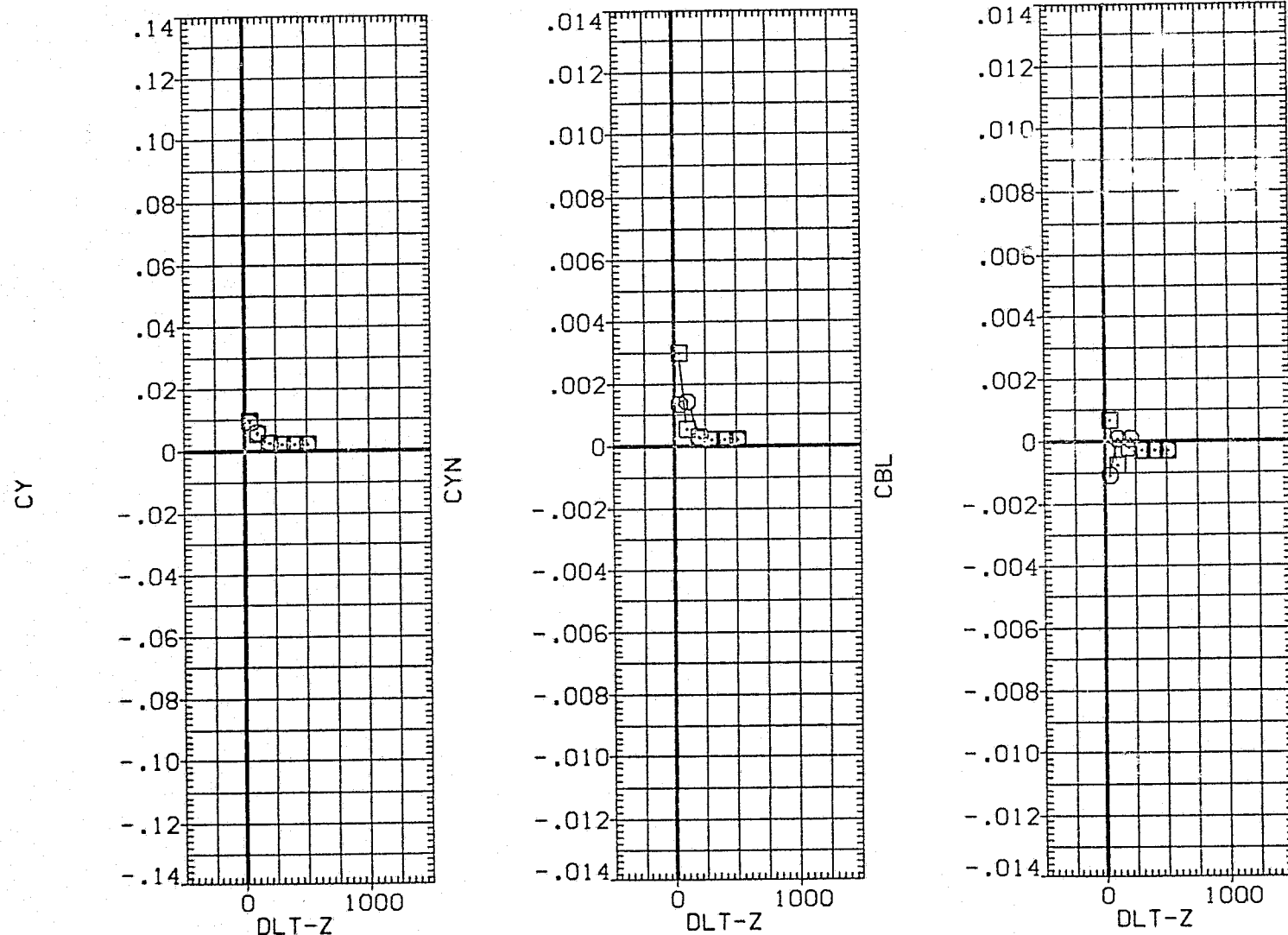


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR258)

SYMBOL
○
□
◇

DLT-X
.476
200.420
400.360

DLT-Y
DLTBT
AILRON
GRID

PARAMETRIC VALUES
60.000
.000
3.000
.000
9.000

ALPHA
DLTALF
MACH
ELEVON

-10.000
-10.000
5.930
.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

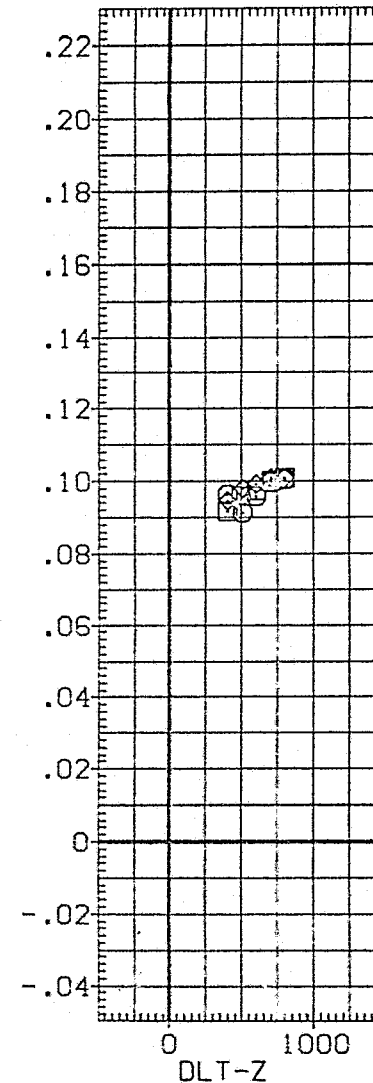
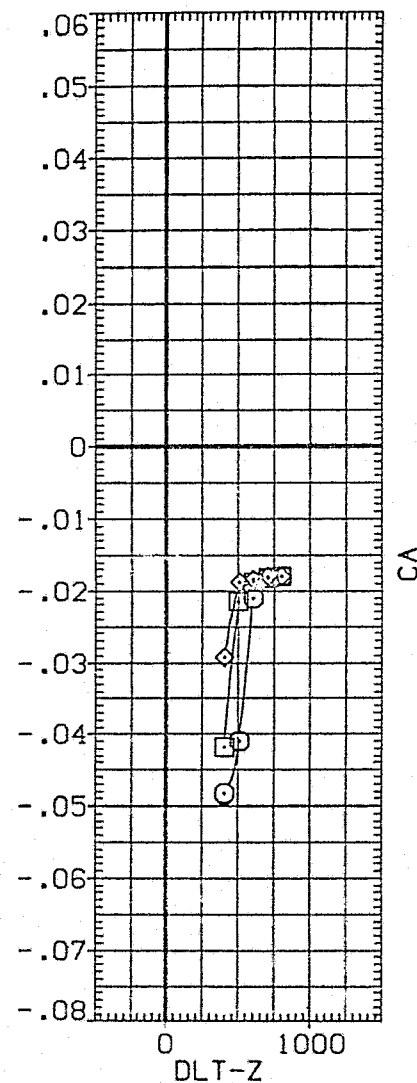
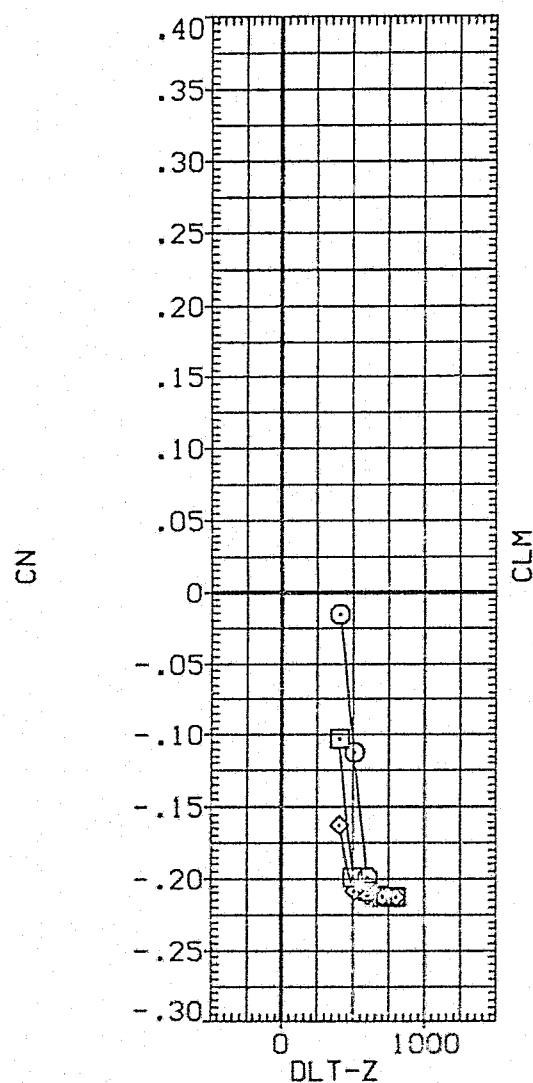


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR258)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.476	60.000	ALPHA -10.000
□	200.420	BETA .000	DLTALF -10.000
◇	400.360	DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 9.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

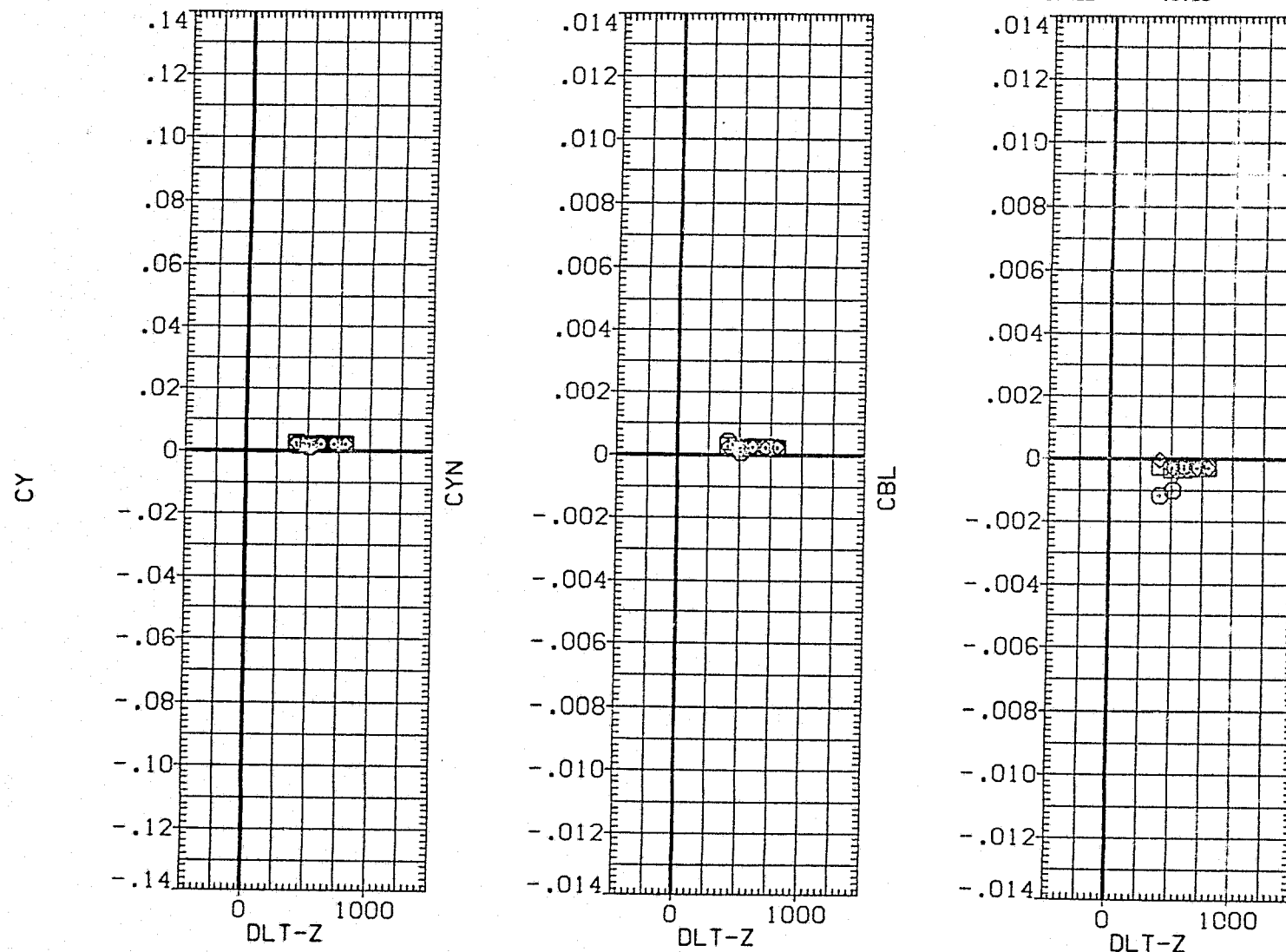


FIGURE 13 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR313)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.515	BETA	60.000	.000	
□	400.460	DLTBTA	3.000	.000	
		AIRLON	.000	5.930	
		GRID	13.000	ELEVON	15.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

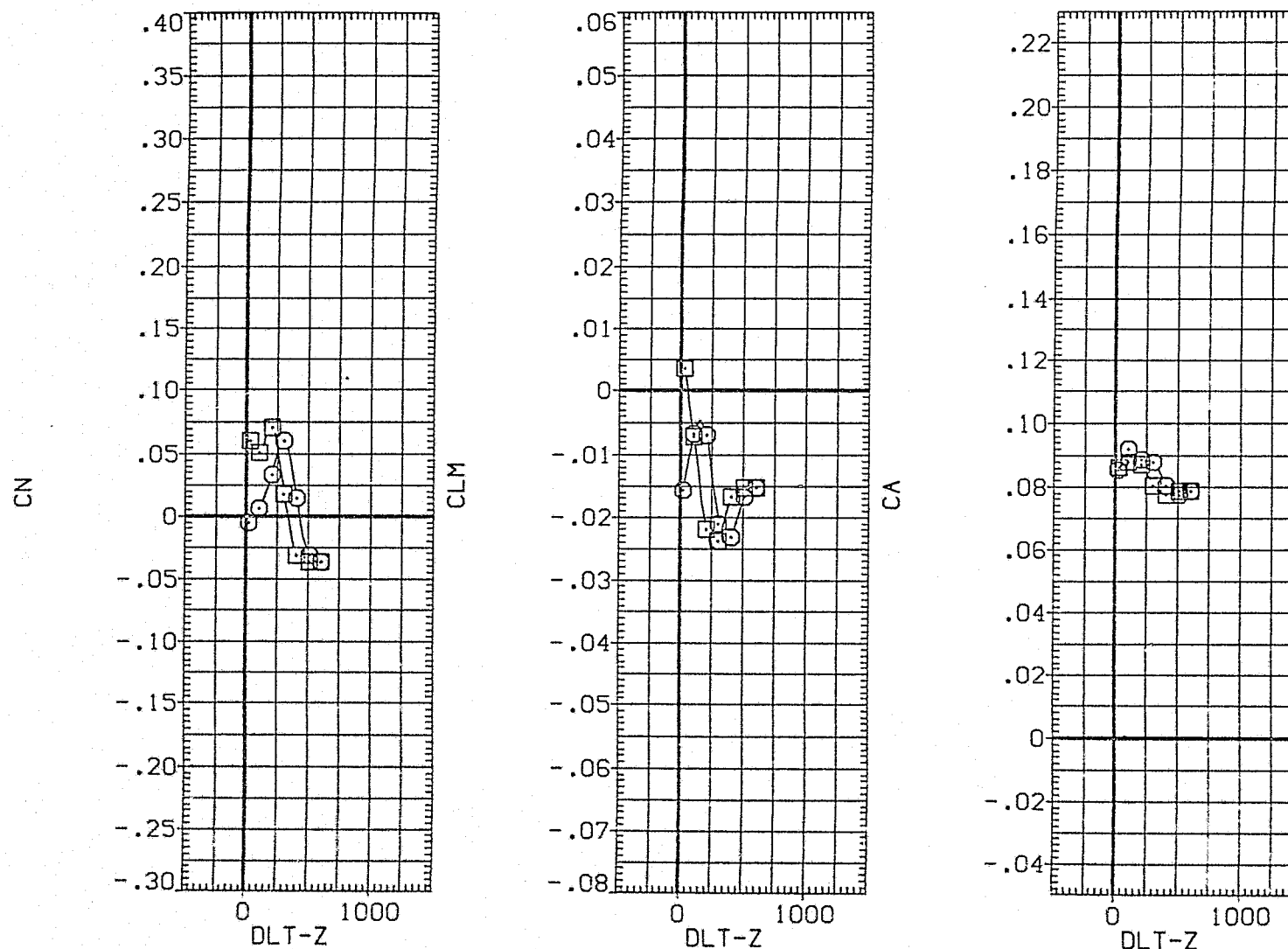


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR313)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.515	60.000	ALPHA	.000
□	400.460	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

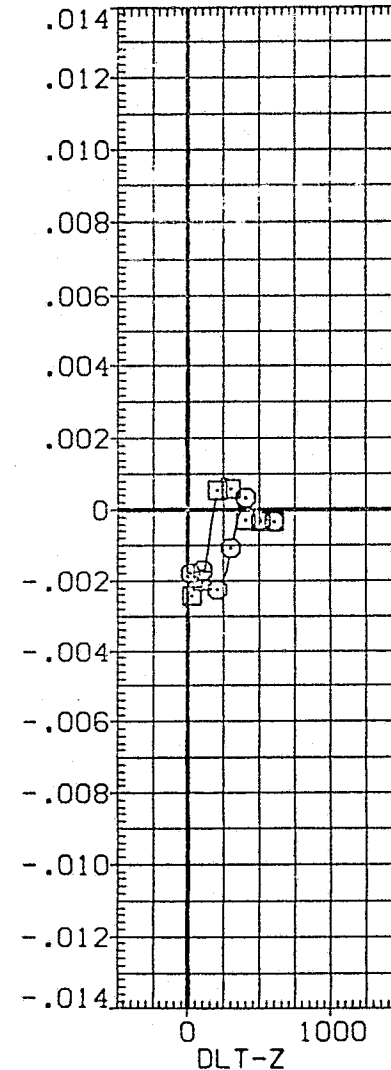
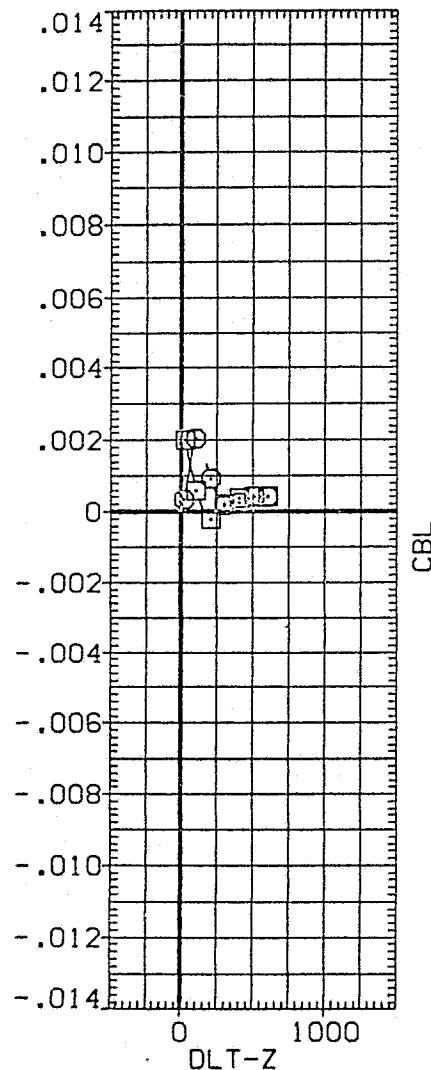
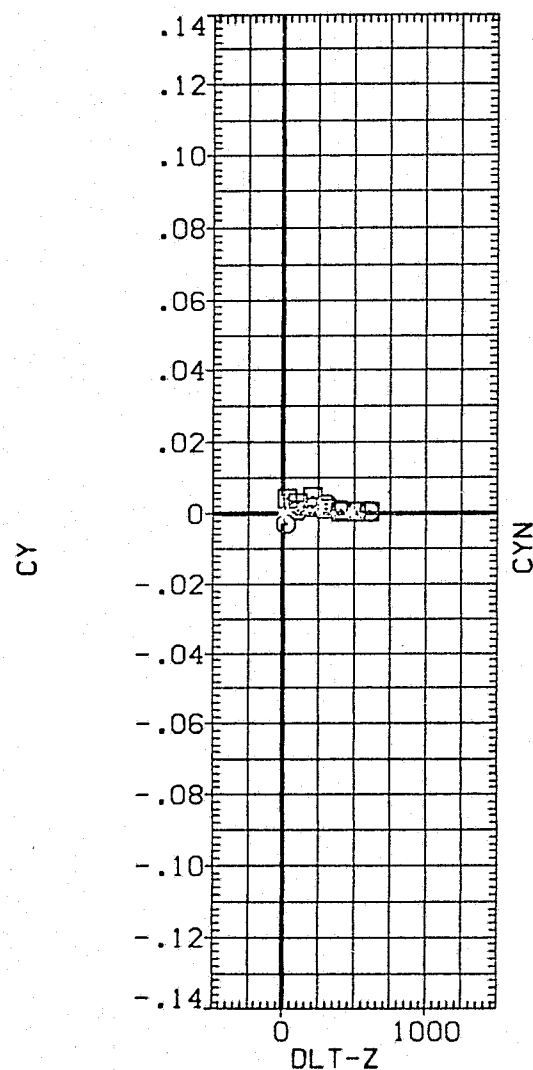


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR314)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.468	60.000	ALPHA	.000
□	400.380	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

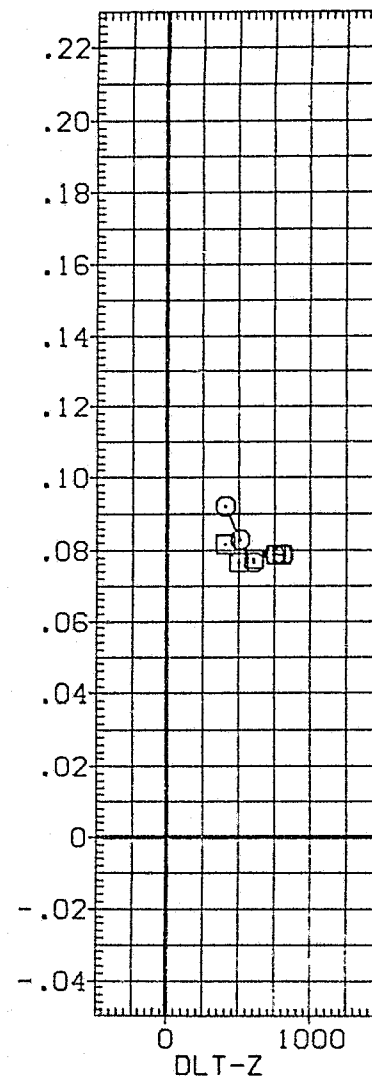
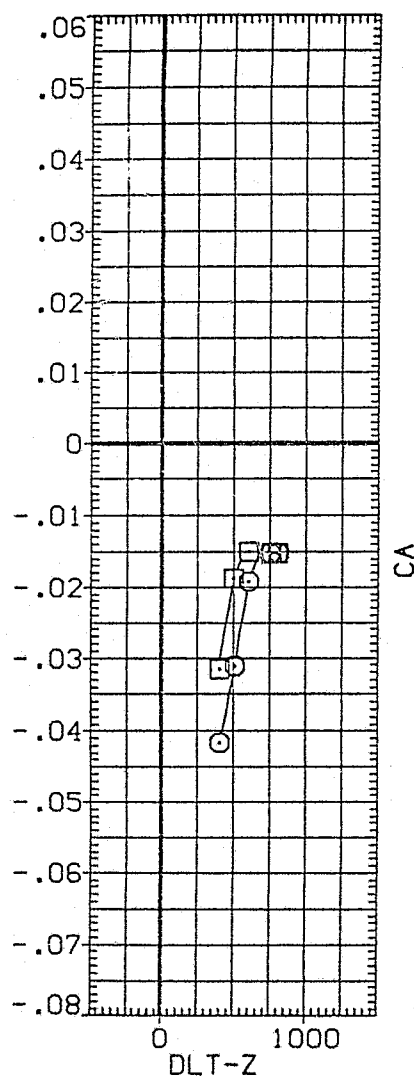
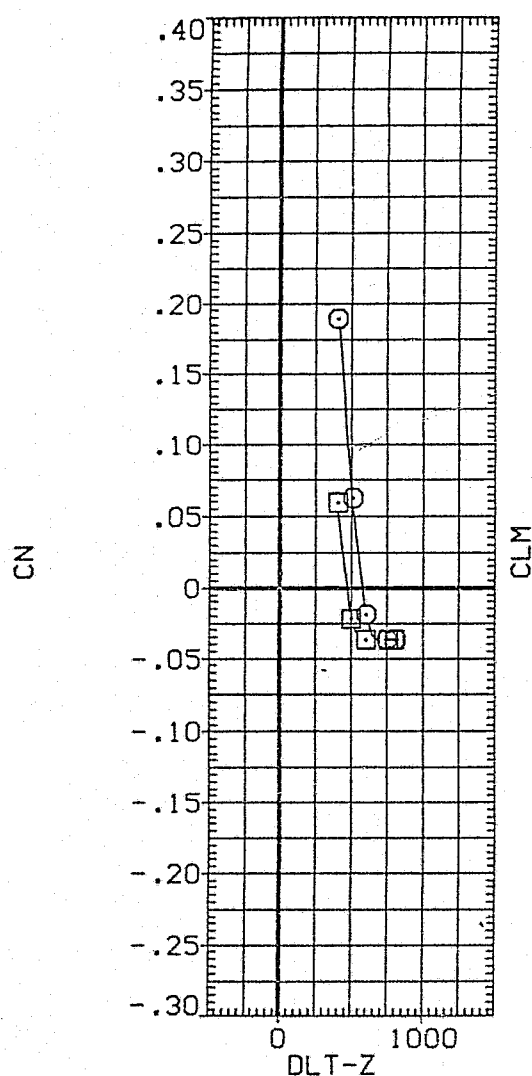


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR314)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.468	60.000	ALPHA .000
□	400.380	BETA .000	DLTALF -10.000
		DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON 15.000
		GRID 13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

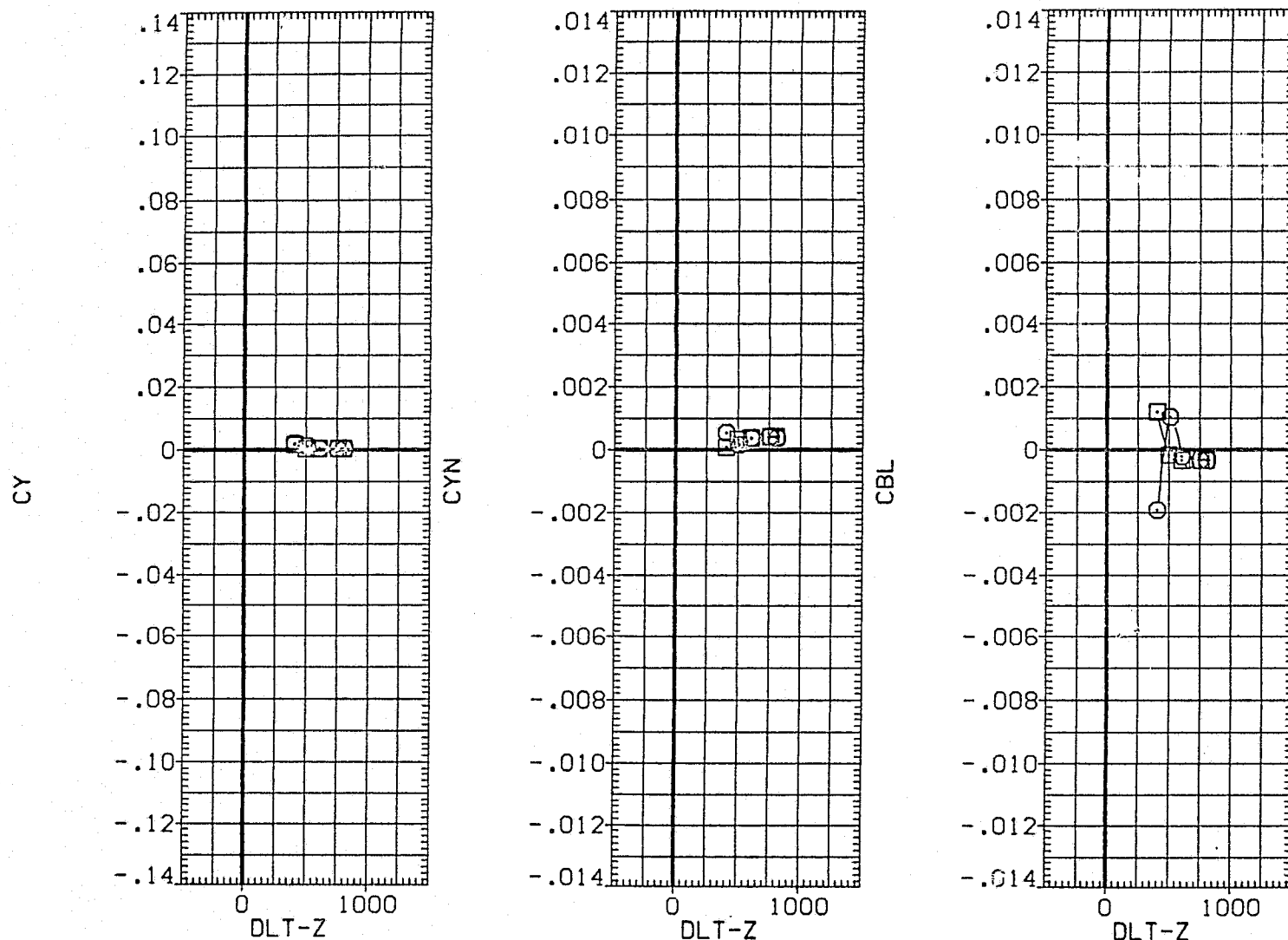


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR316)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.457	60.000	ALPHA	.000	
□	400.390	.000	DLTALF	-20.000	
		3.000	MACH	5.930	
		.000	ELEVON	15.000	
		13.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

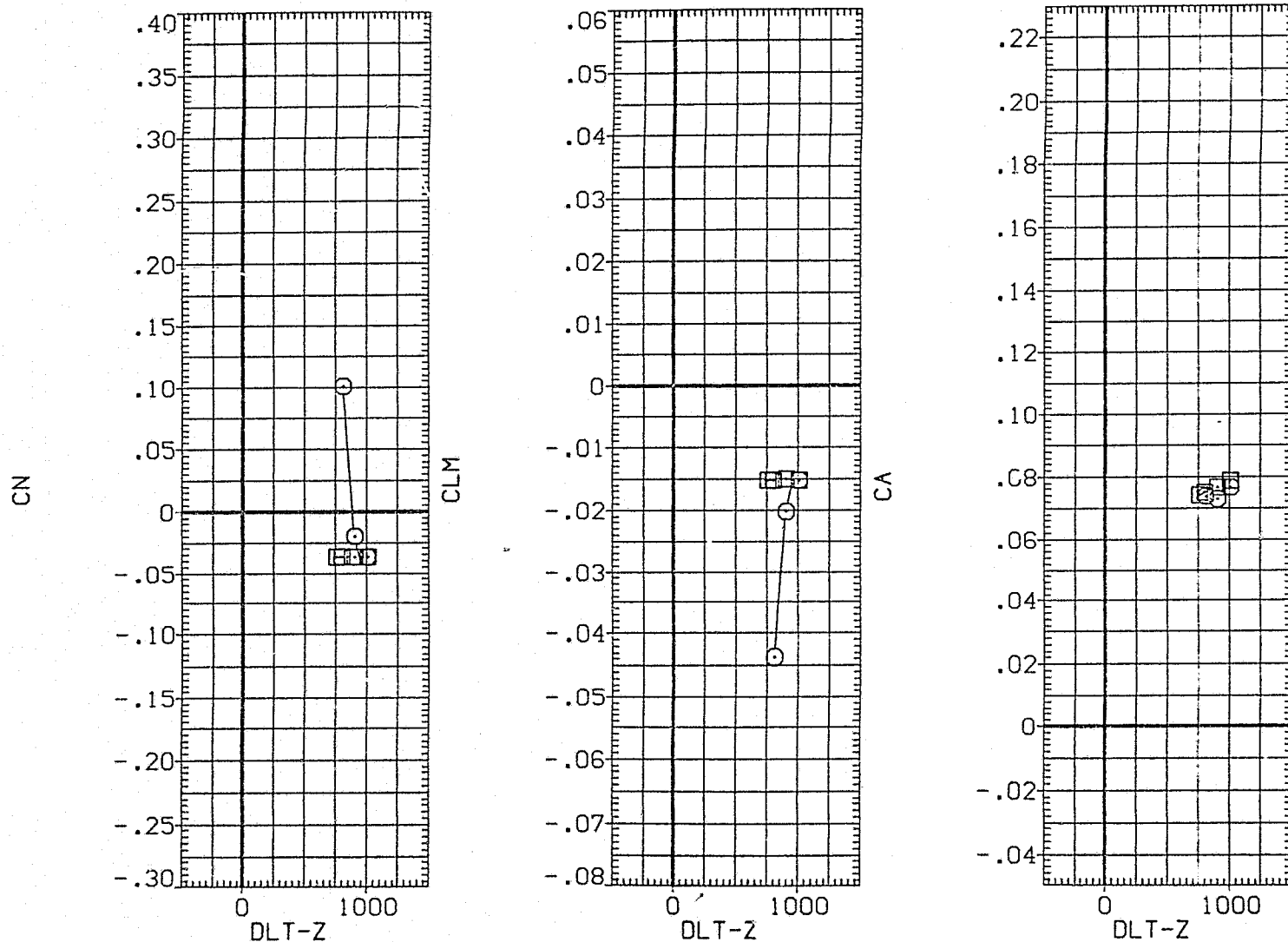


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR316)

SYMBOL



DLT-X

.457
400.390

DLT-Y

BETA

DLTBTA

AILRON

GRID

PARAMETRIC VALUES

60.000

.000

3.000

.000

13.000

ALPHA

DLTALF

MACH

ELEVON

.000

-20.000

5.930

15.000

REFERENCE INFORMATION

SREF

LREF

BREF

XMRP

YMRP

ZMRP

SCALE

2690.0000

1290.3000

1290.3000

1089.6000

.0000

375.0000

.0100

SQ.FT.

IN.

IN.

IN. X0

IN. Y0

IN. Z0

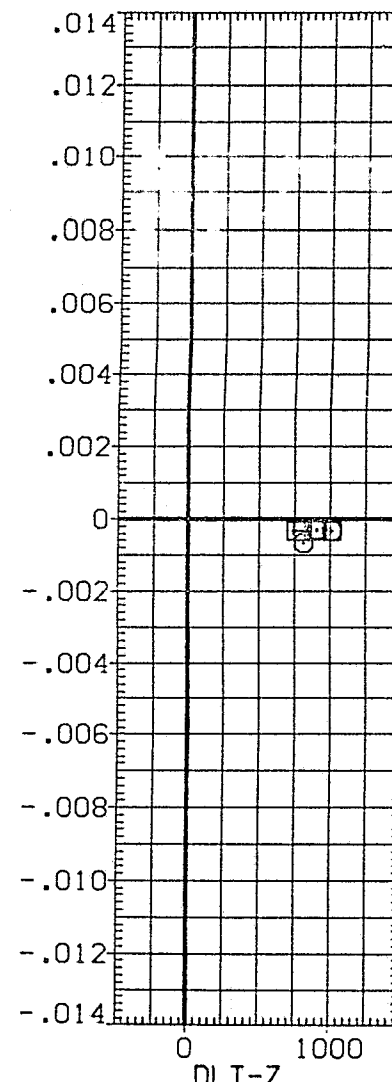
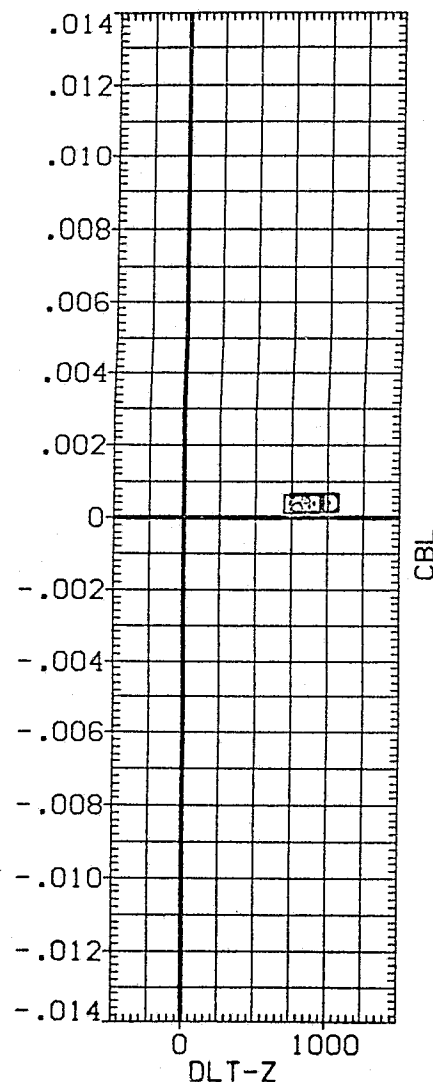
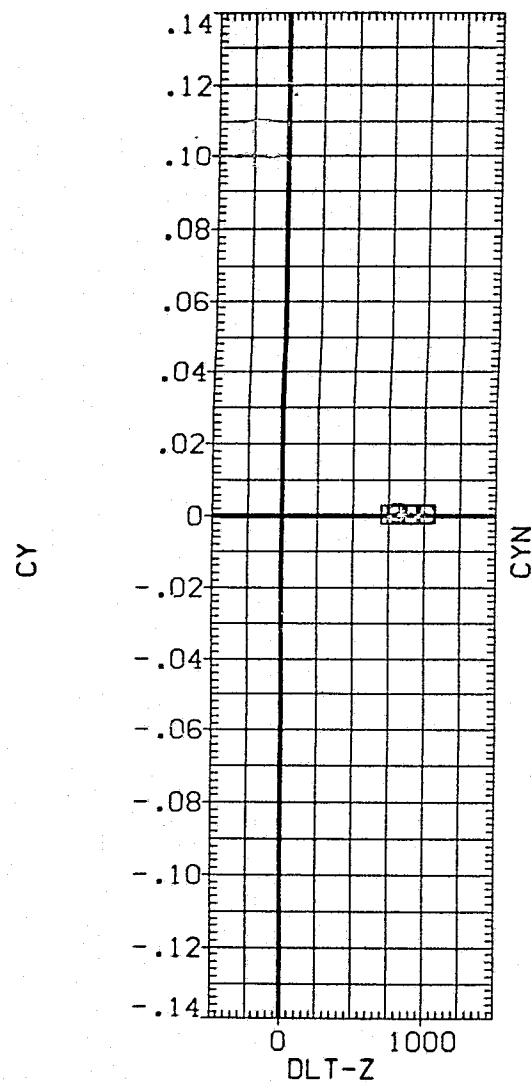


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR310)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.537	BETA	60.000	.000	
		DLTBTA	3.000	.000	
		AIRLON	3.000	5.930	
		GRID	.000	ELEVON	15.000
			14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

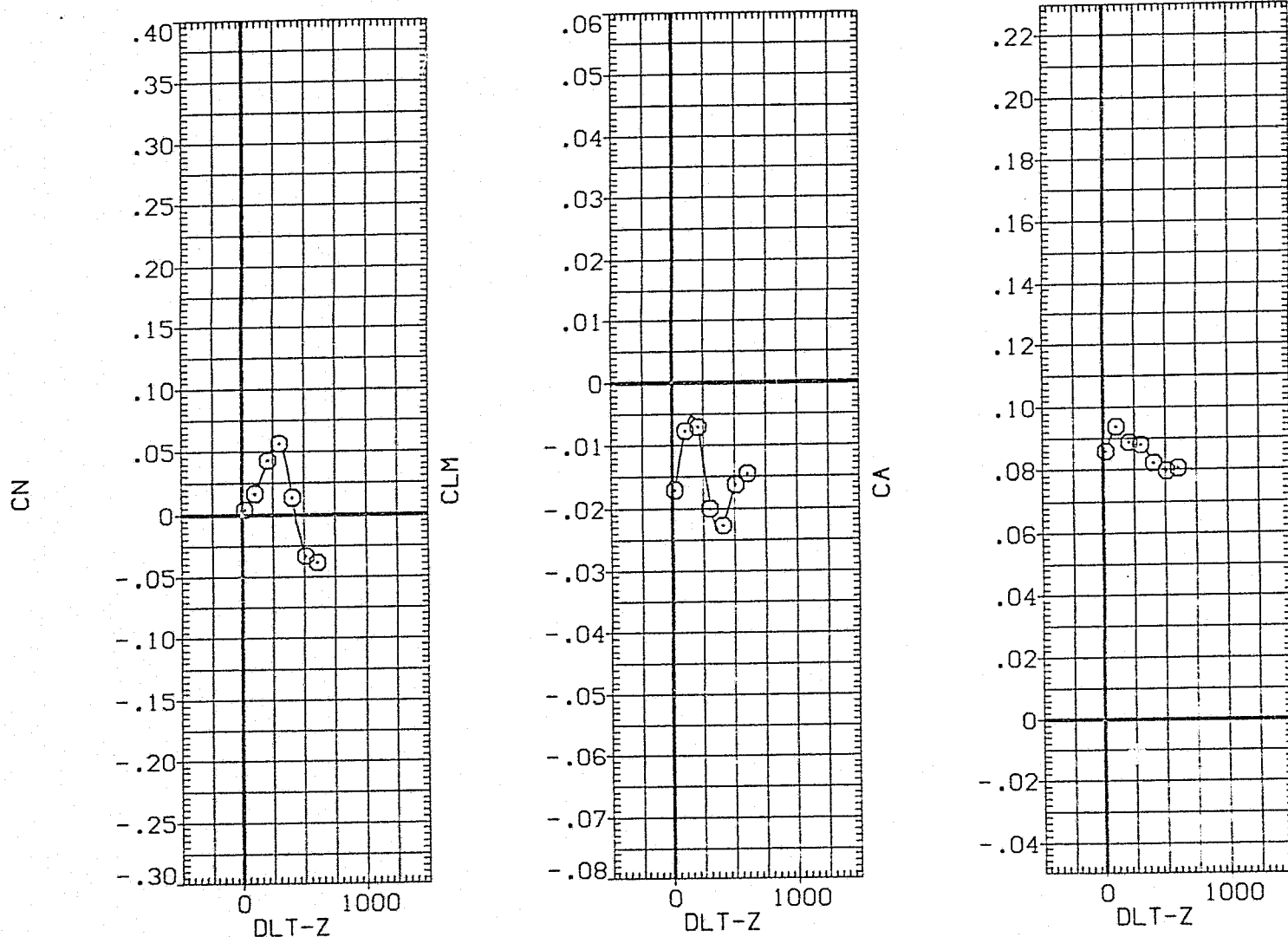


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR310)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.537	DLT-Y 60.000	ALPHA .000
		BETA 3.000	DLTALF .000
		DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON 15.000
		GRID 14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMCP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

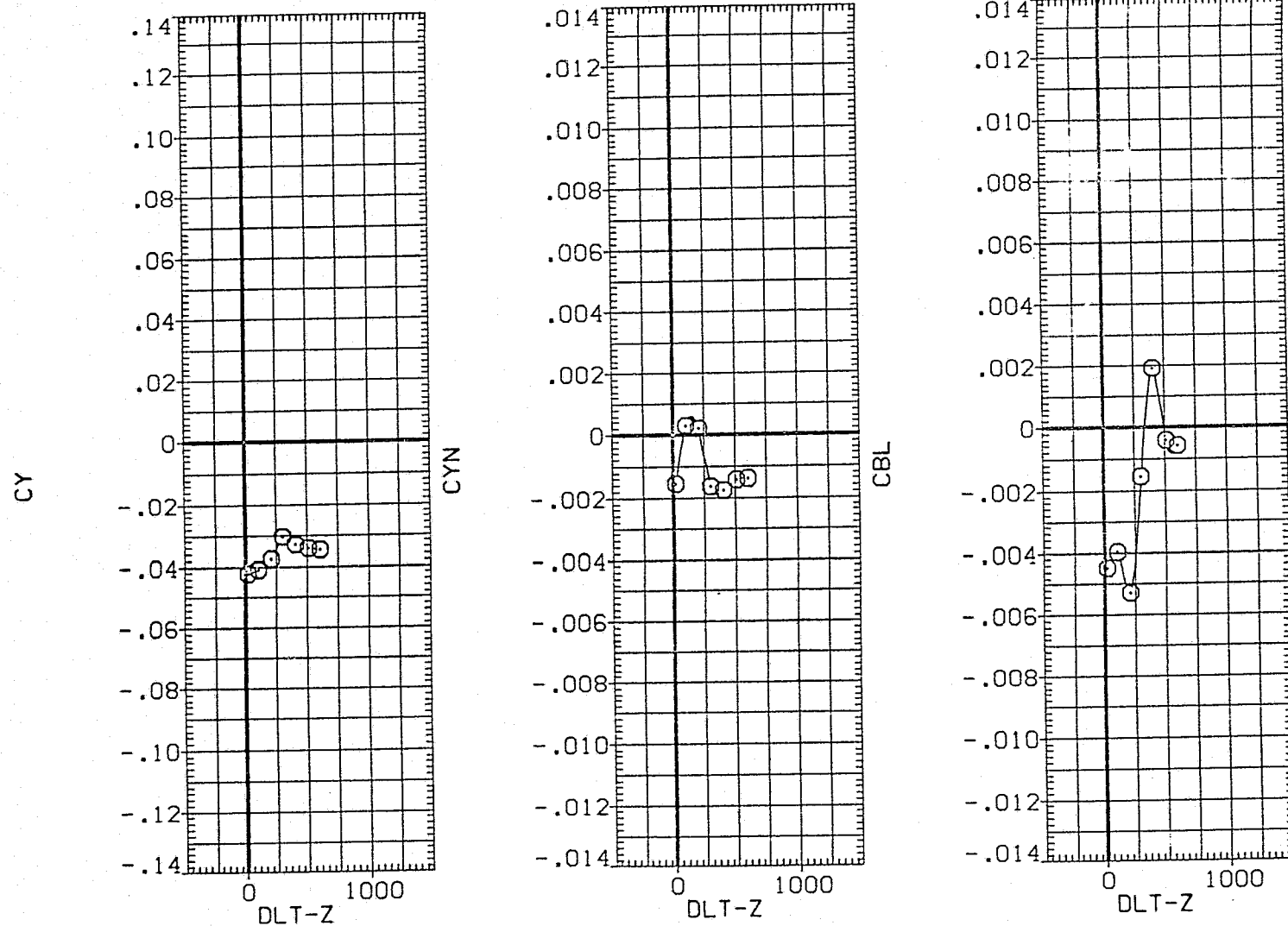


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR311)

SYMBOL	DLT-X	DLT-Y	BETA	DLTBTA	AILRON	GRID	PARAMETRIC VALUES	ALPHA	DLTALF	MACH	ELEVON
○	.457						60.000	.000	-10.000	5.930	15.000
							3.000				
							3.000				
							.000				
							14.000				

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

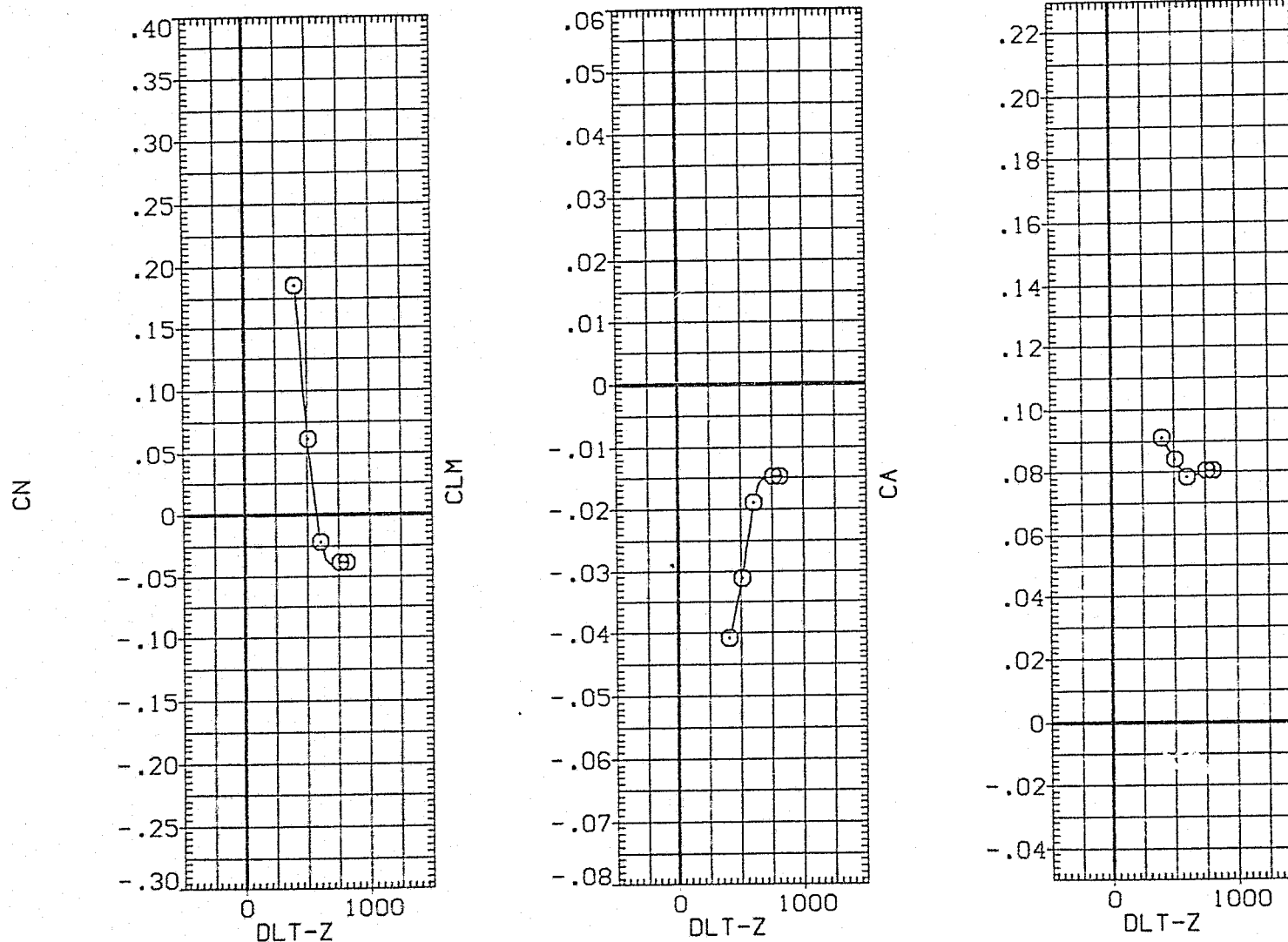


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR311)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.457	DLT-Y 60.000	ALPHA .000
		BETA 3.000	DLTALF -10.000
		DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON 15.000
		GRID 14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

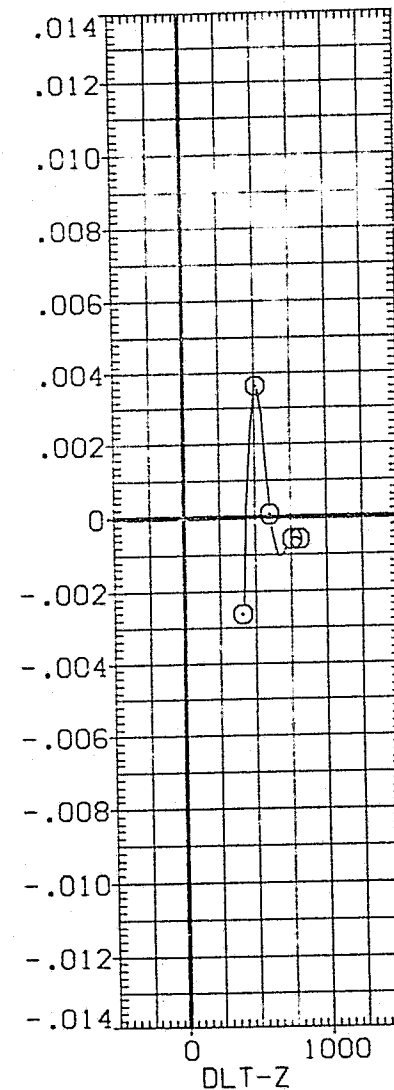
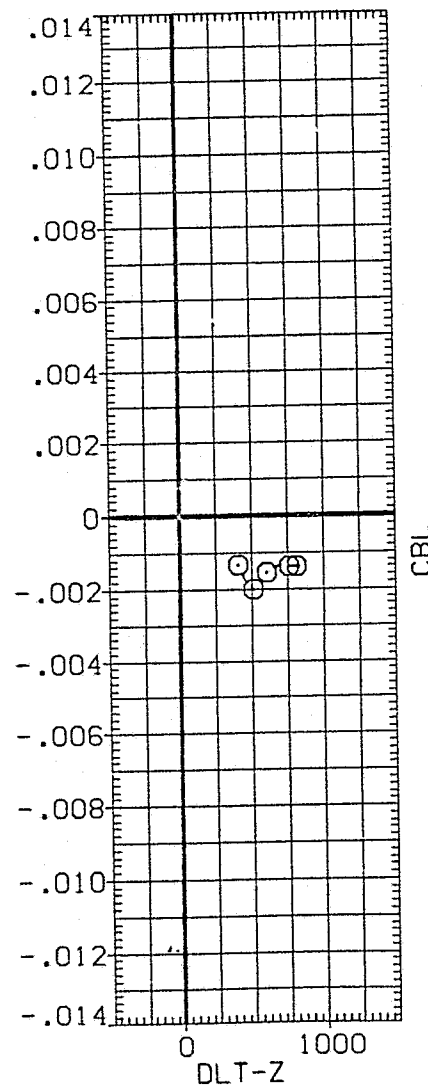
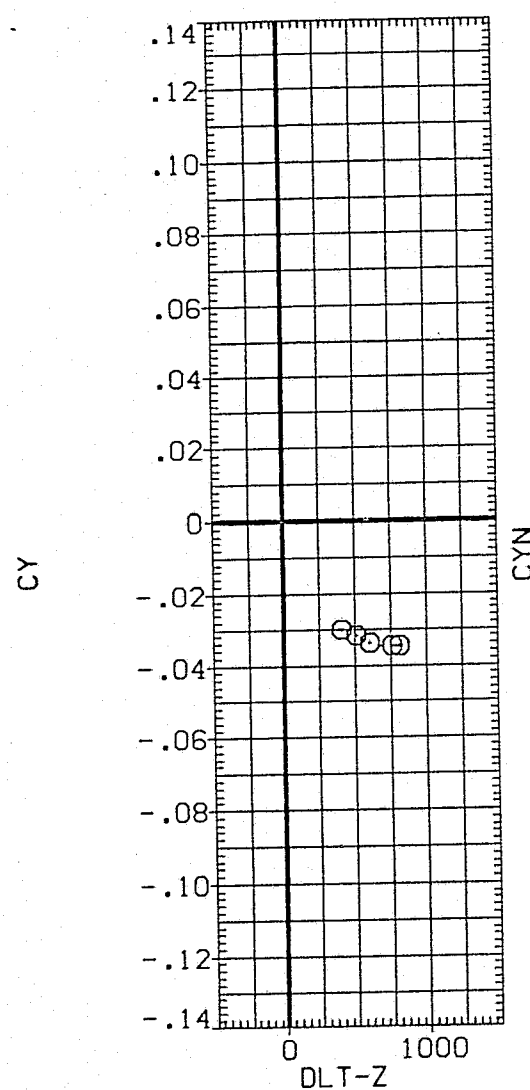


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR312)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.406	60.000	DLTALF	.000	
		3.000	MACH	-20.000	
		3.000	ELEVON	5.930	
		.000		15.000	
		14.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

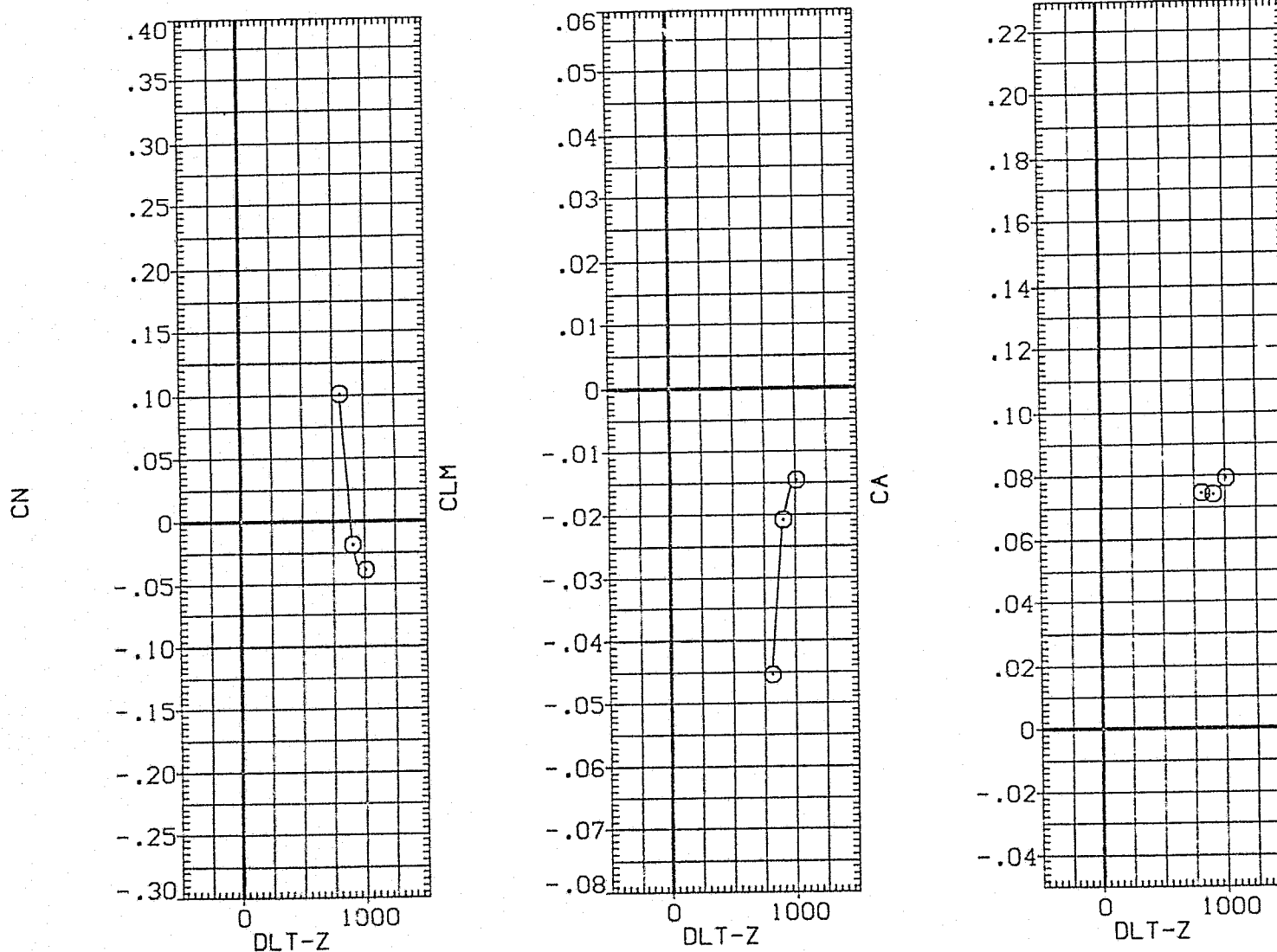


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR312)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.406	BETA	60.000	.000	
		DLTBT A	3.000	DLTALF	-20.000
		AIRLON	3.000	MACH	5.930
		GRID	.000	ELEVON	15.000
			14.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

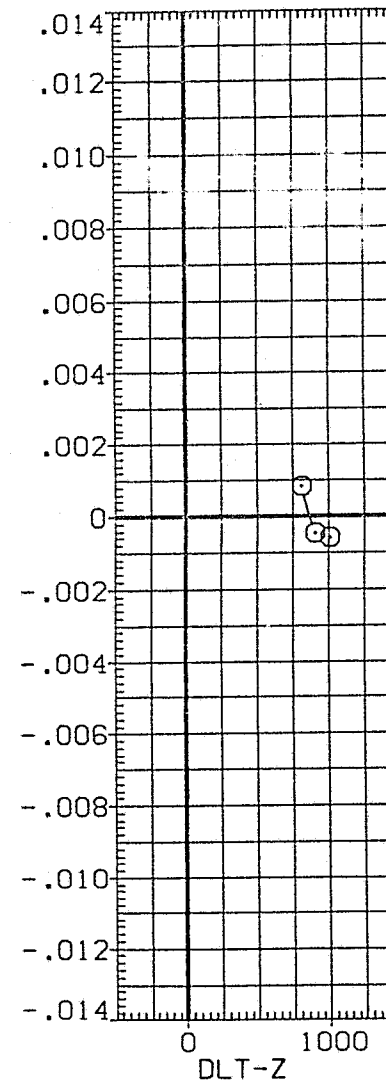
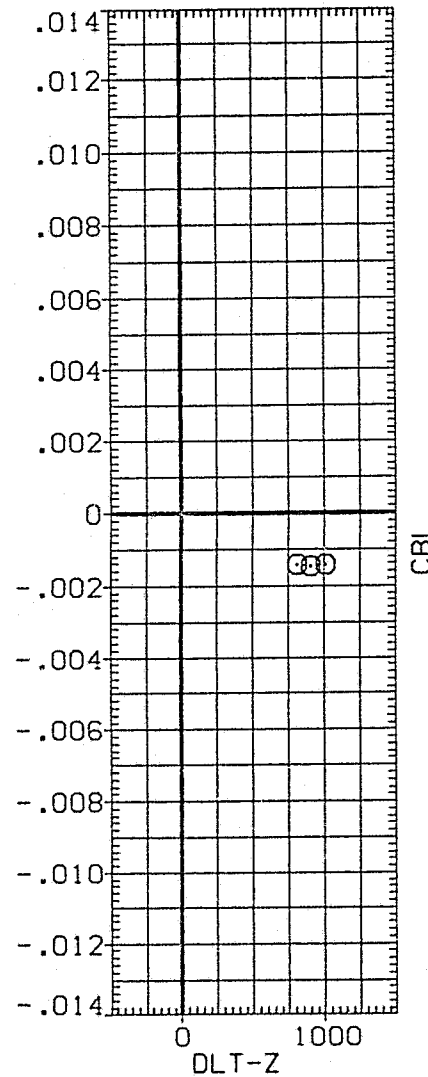
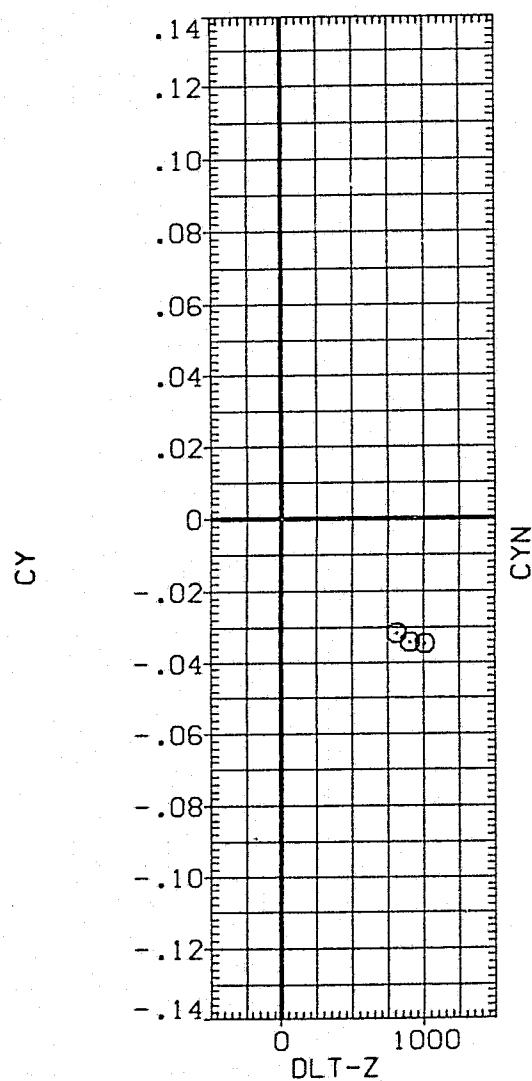


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR317)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.522	BETA	60.000	5.000	
□	400.440	DLTBTA	.000	.000	
		AILRON	3.000	5.930	
		GRID	.000	ELEVON	15.000
			12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

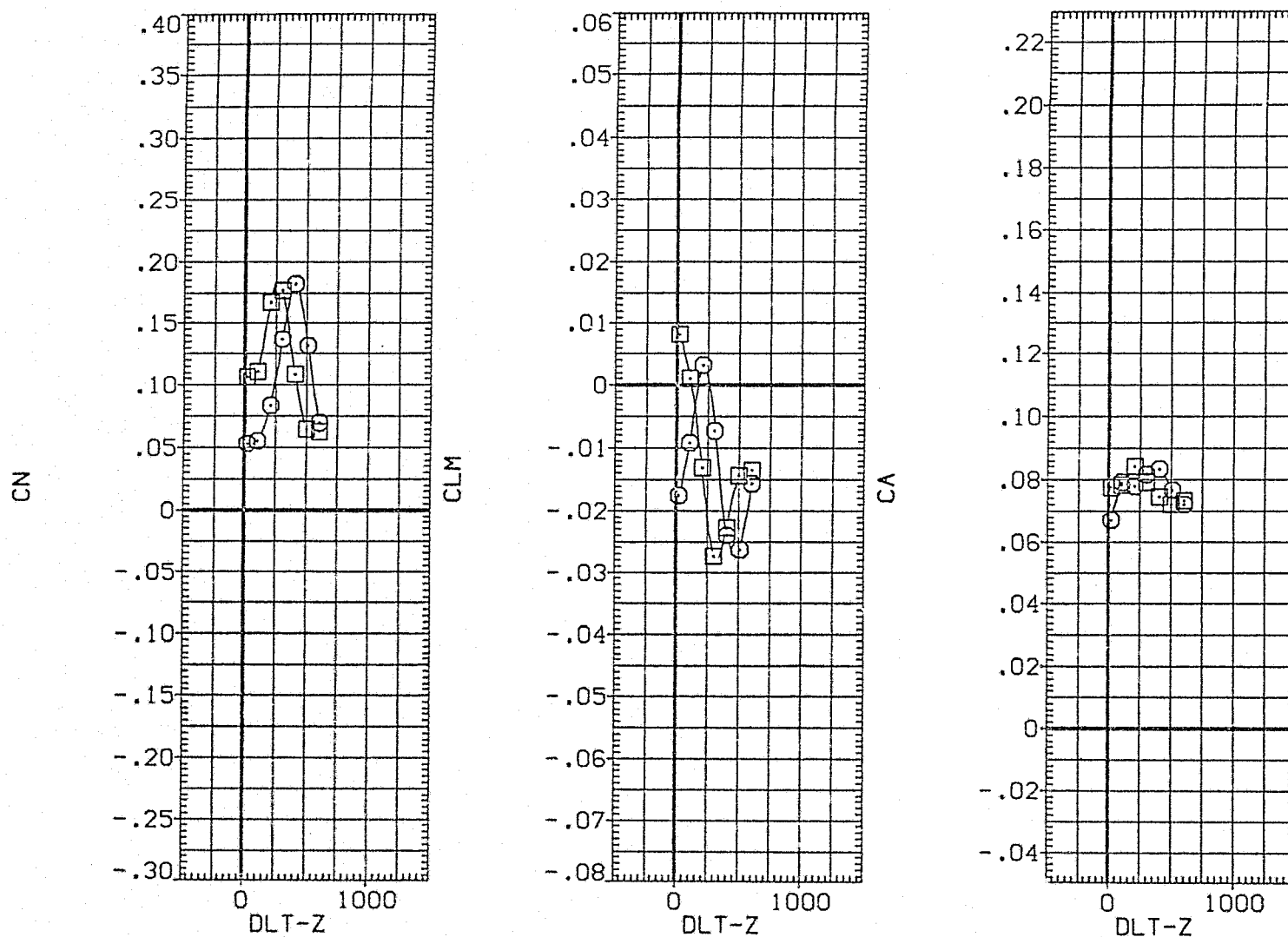


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR317)

SYMBOL
○
□

DLT-X
.522
400.440

DLT-Y
60.000
BETA
DLTBT
AILRON
GRID

PARAMETRIC VALUES
ALPHA
DLTALF
MACH
ELEVON

5.000
.000
5.930
15.000

REFERENCE INFORMATION

SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1099.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

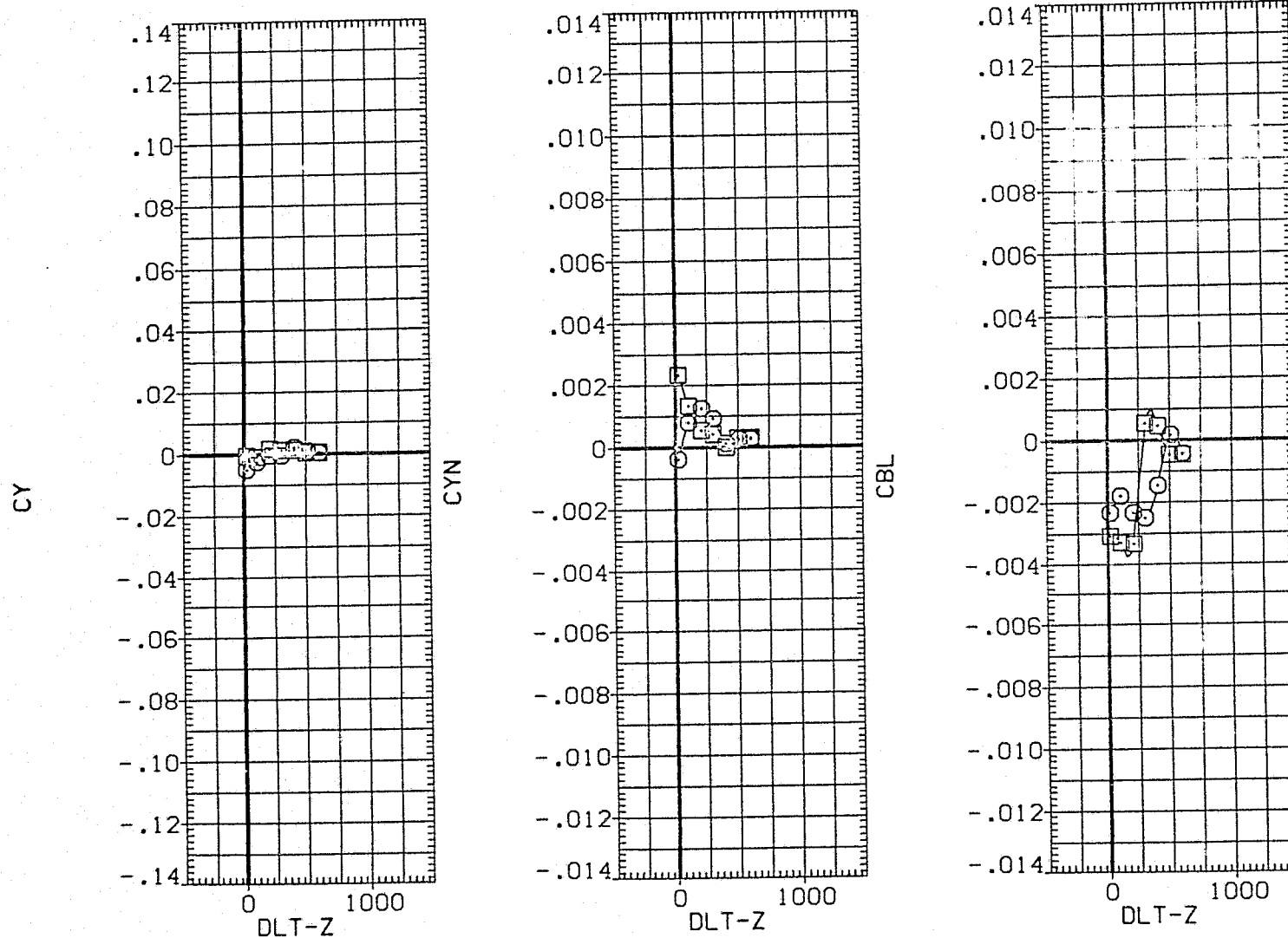


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR318)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.472	BETA	60.000	5.000
□	400.450	DLTBT	.000	DLTALF -10.000
		AILRON	3.000	MACH 5.930
		GRID	.000	ELEVON 15.000
			12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

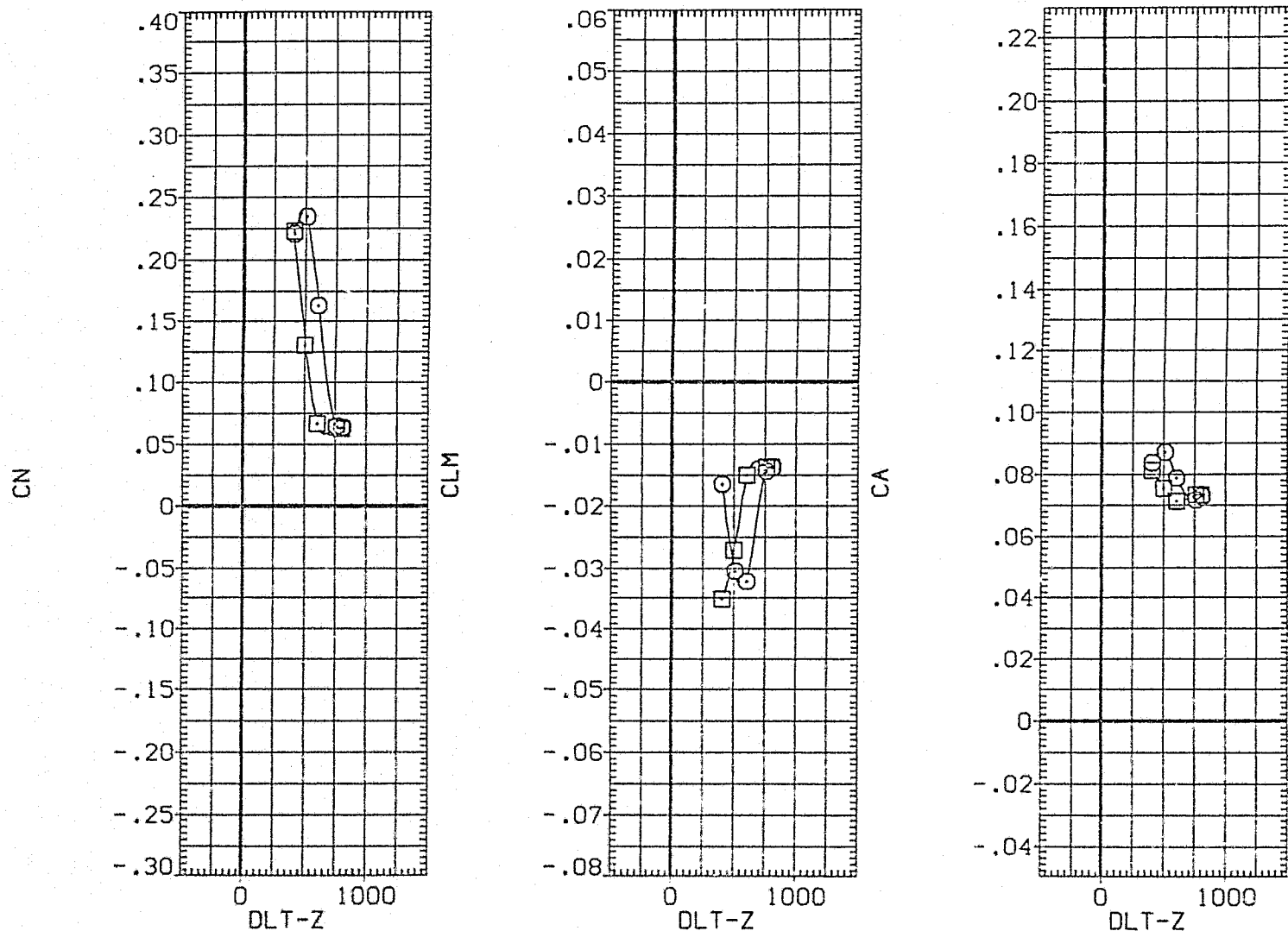


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR318)

SYMBOL

○

□

DLT-X

.472

400.450

DLT-Y

BETA

DLTBTA

AILRON

GRID

PARAMETRIC VALUES

60.000

ALPHA

DLTALF

MACH

ELEVON

5.000

-10.000

5.930

15.000

REFERENCE INFORMATION

SREF 2690.0000 50.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 1089.6000 IN. X0

YMRP .0000 IN. Y0

ZMRP 375.0000 IN. Z0

SCALE .0100

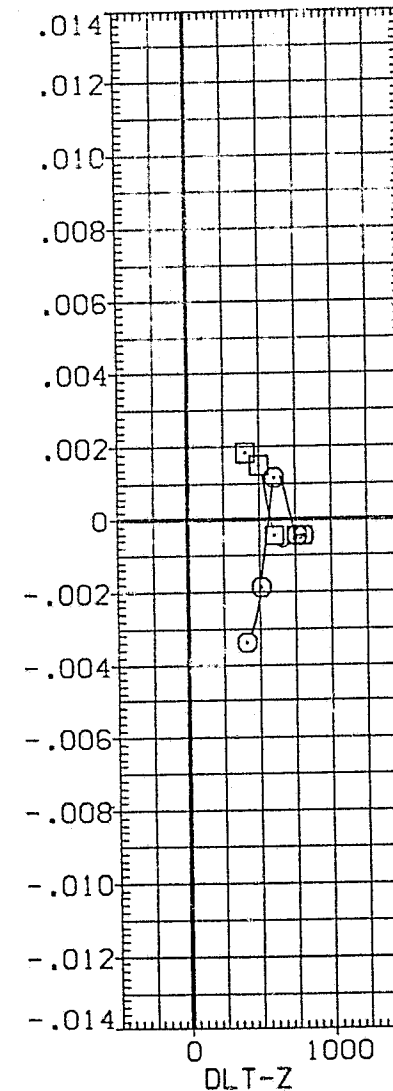
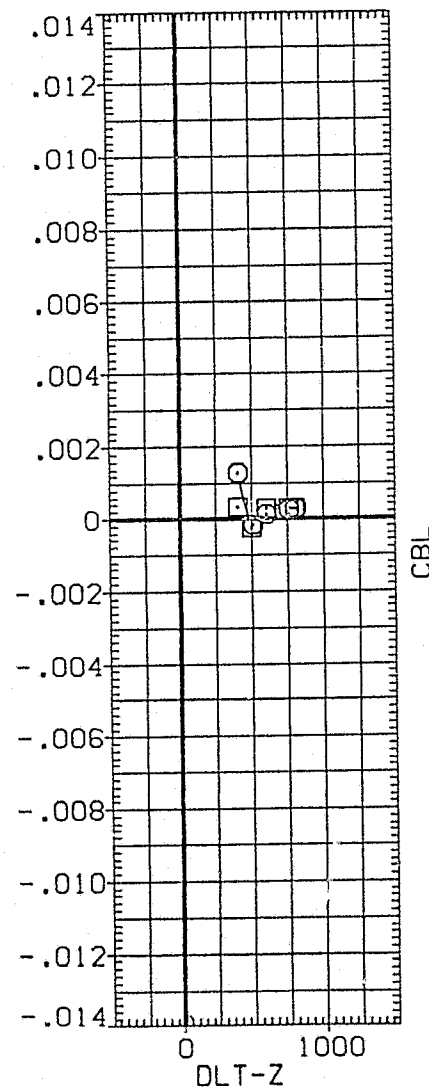
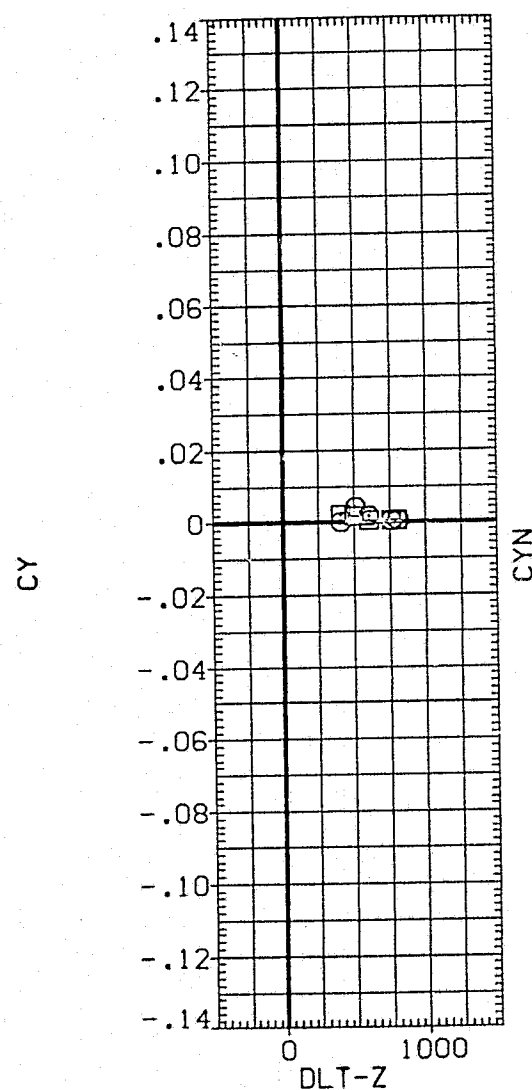


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR320)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.446		60.000	ALPHA 5.000
□	400.420	BETA	.000	DLTALF -20.000
		DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON 15.000
		GRID	12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. Z0
SCALE	.0100	

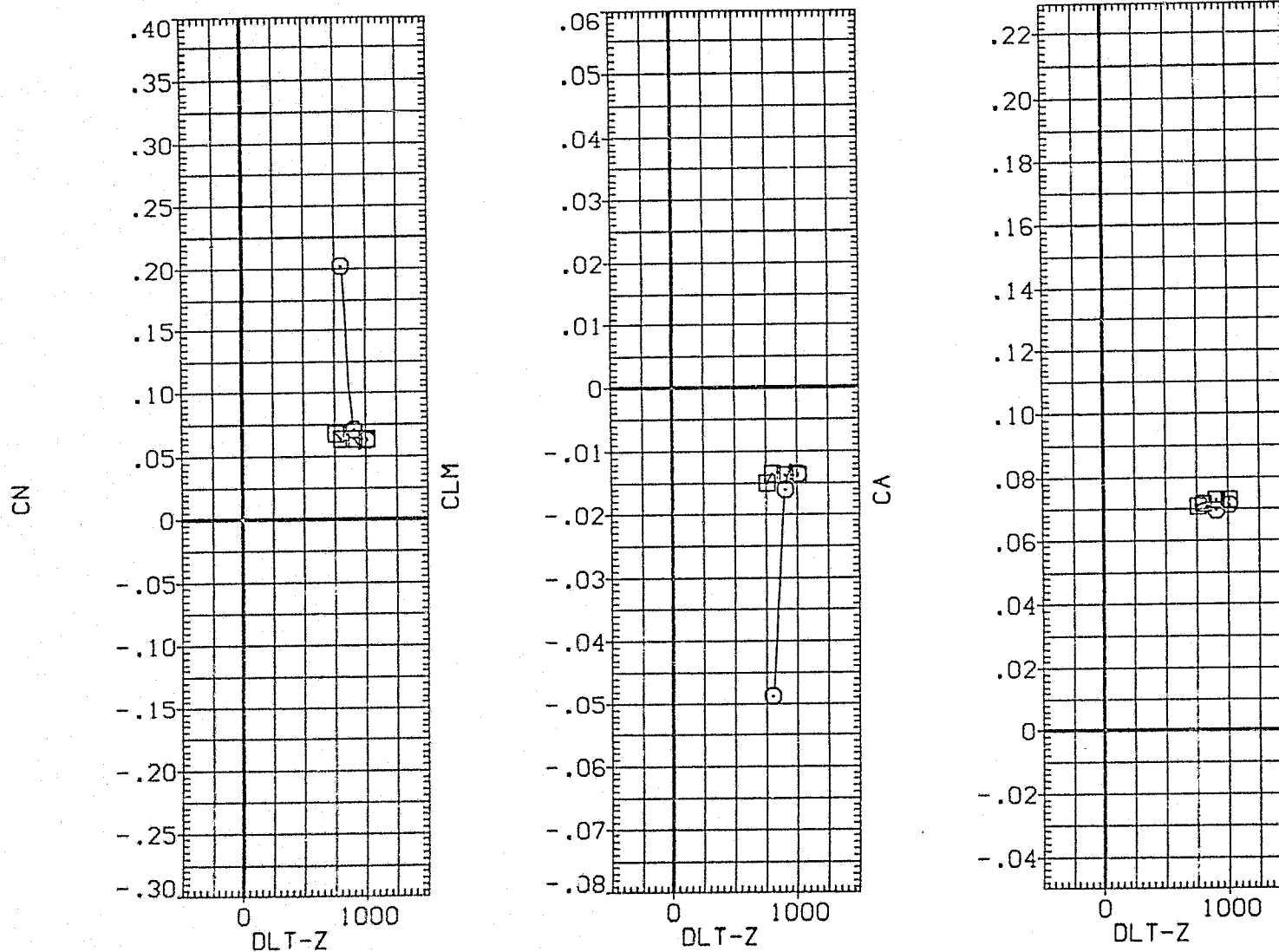


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR320)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.446	60.000	DLTALF	5.000	
□	400.420	.000	MACH	-20.000	
		3.000	ELEVON	5.930	
		.000		15.000	
		12.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

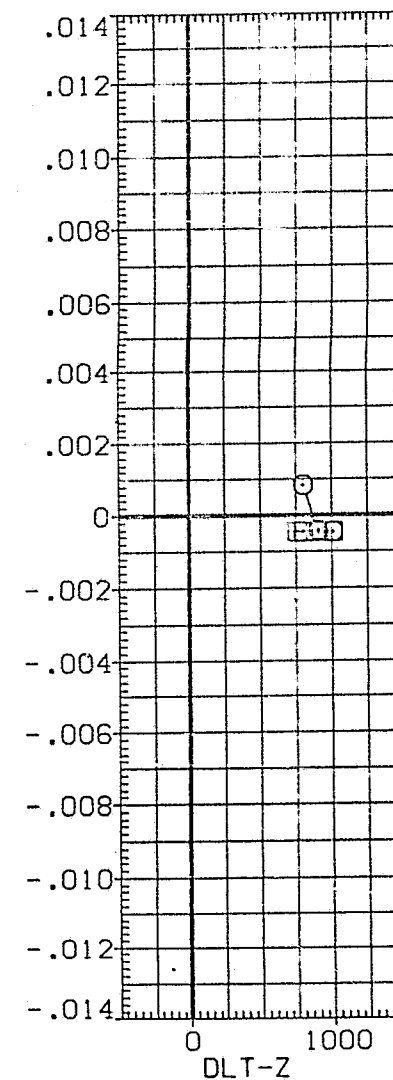
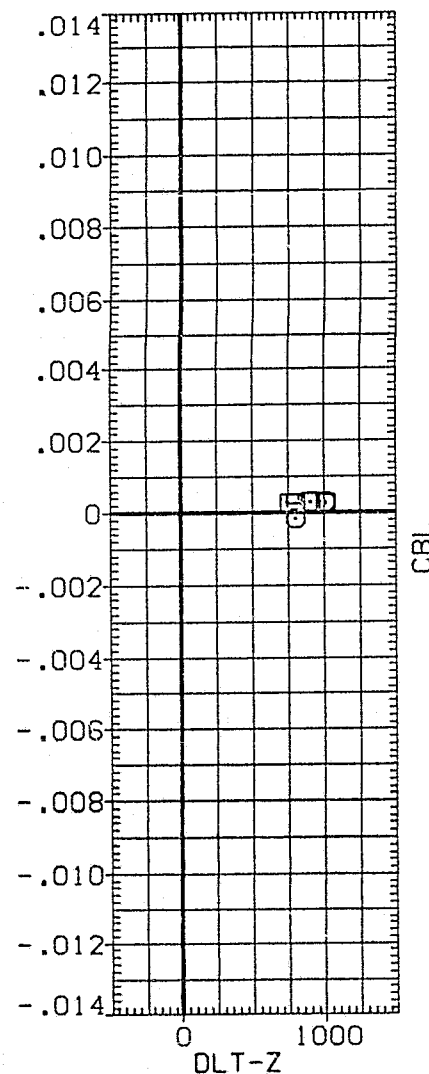
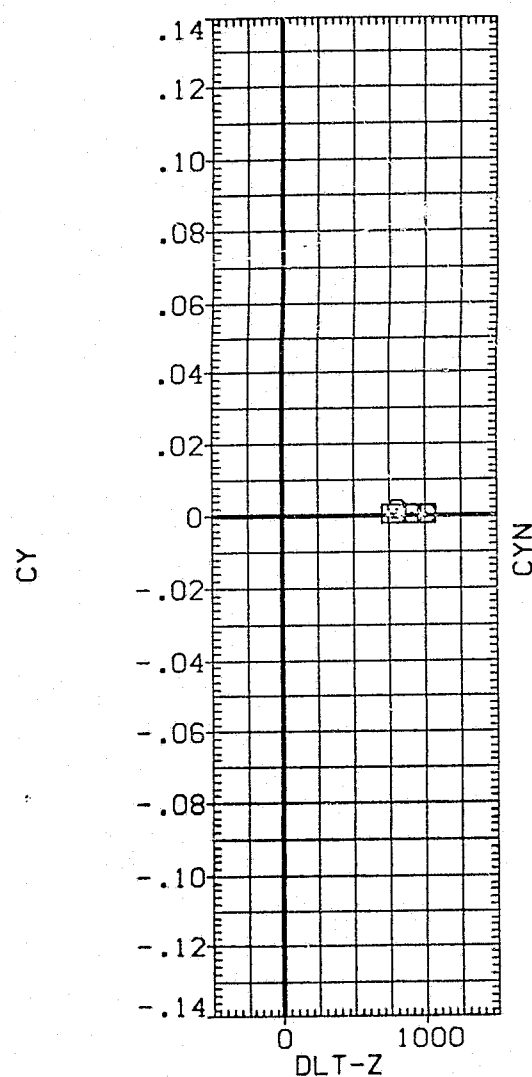


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR321)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.455	60.000	ALPHA	-5.000
□	400.430	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1099.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

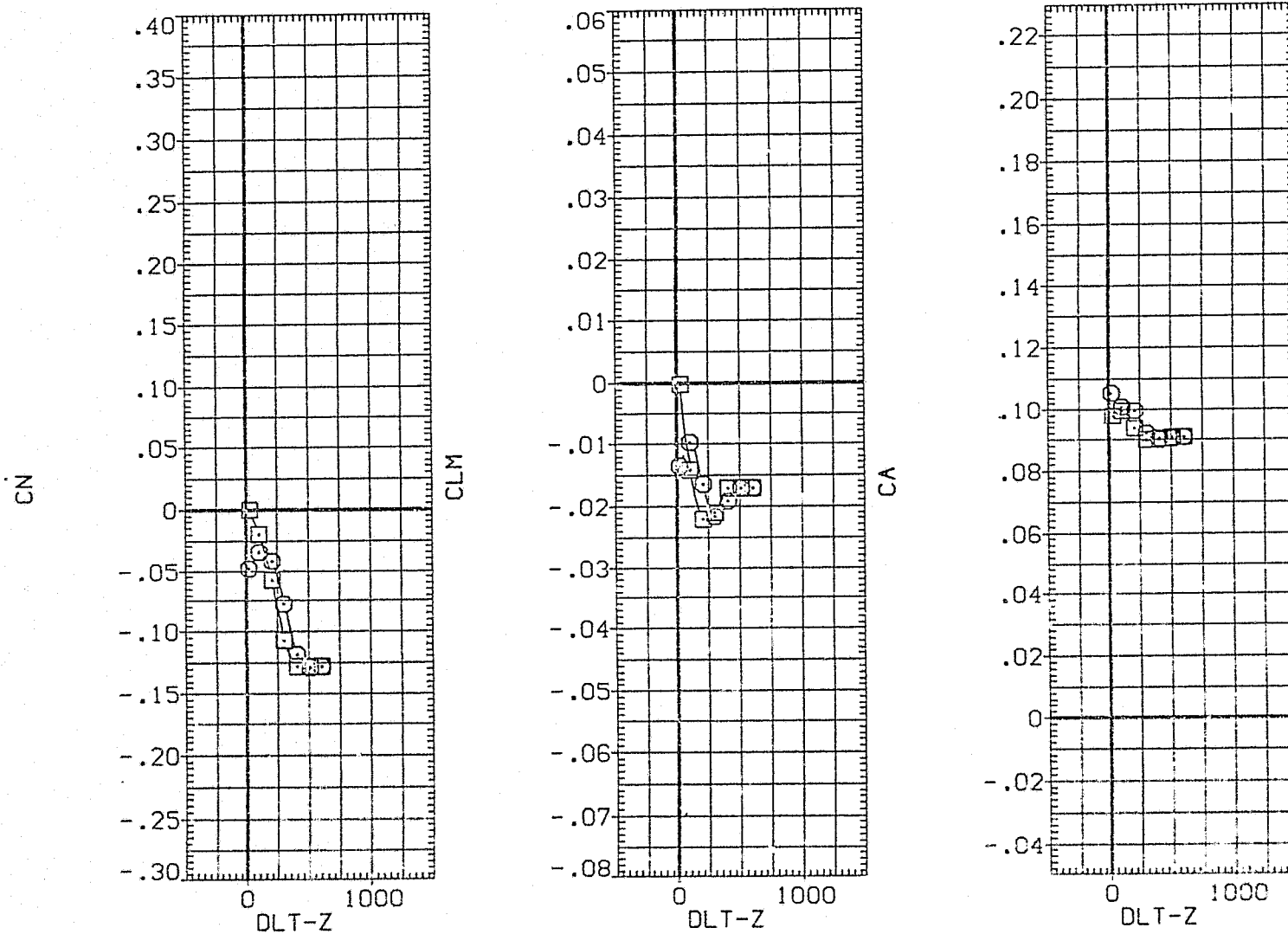


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR321)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.455	BETA	60.000	ALPHA
□	400.430	DLTBT	.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			11.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

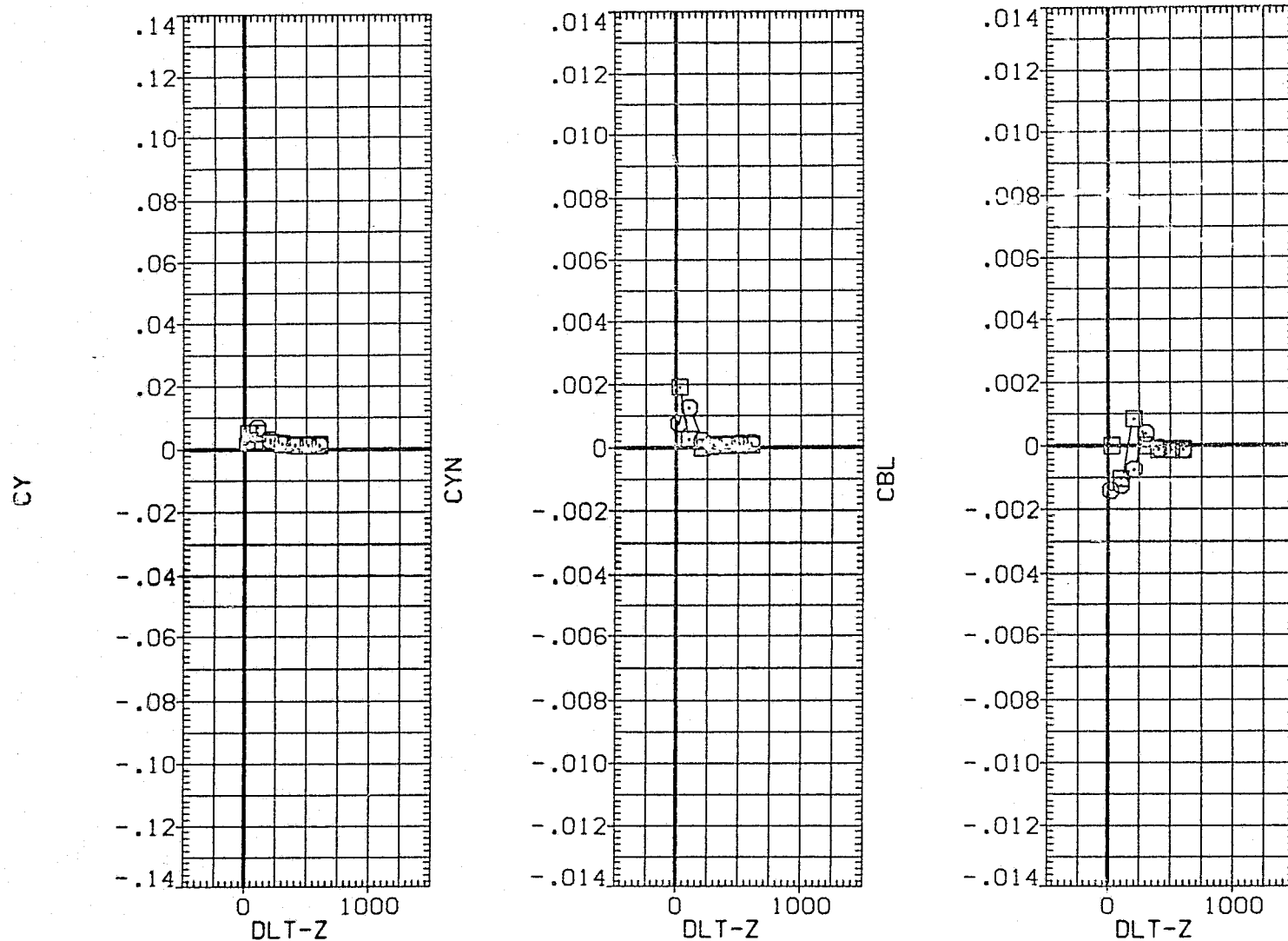


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR322)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.494	60.000	ALPHA	-5.000
□	400.400	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

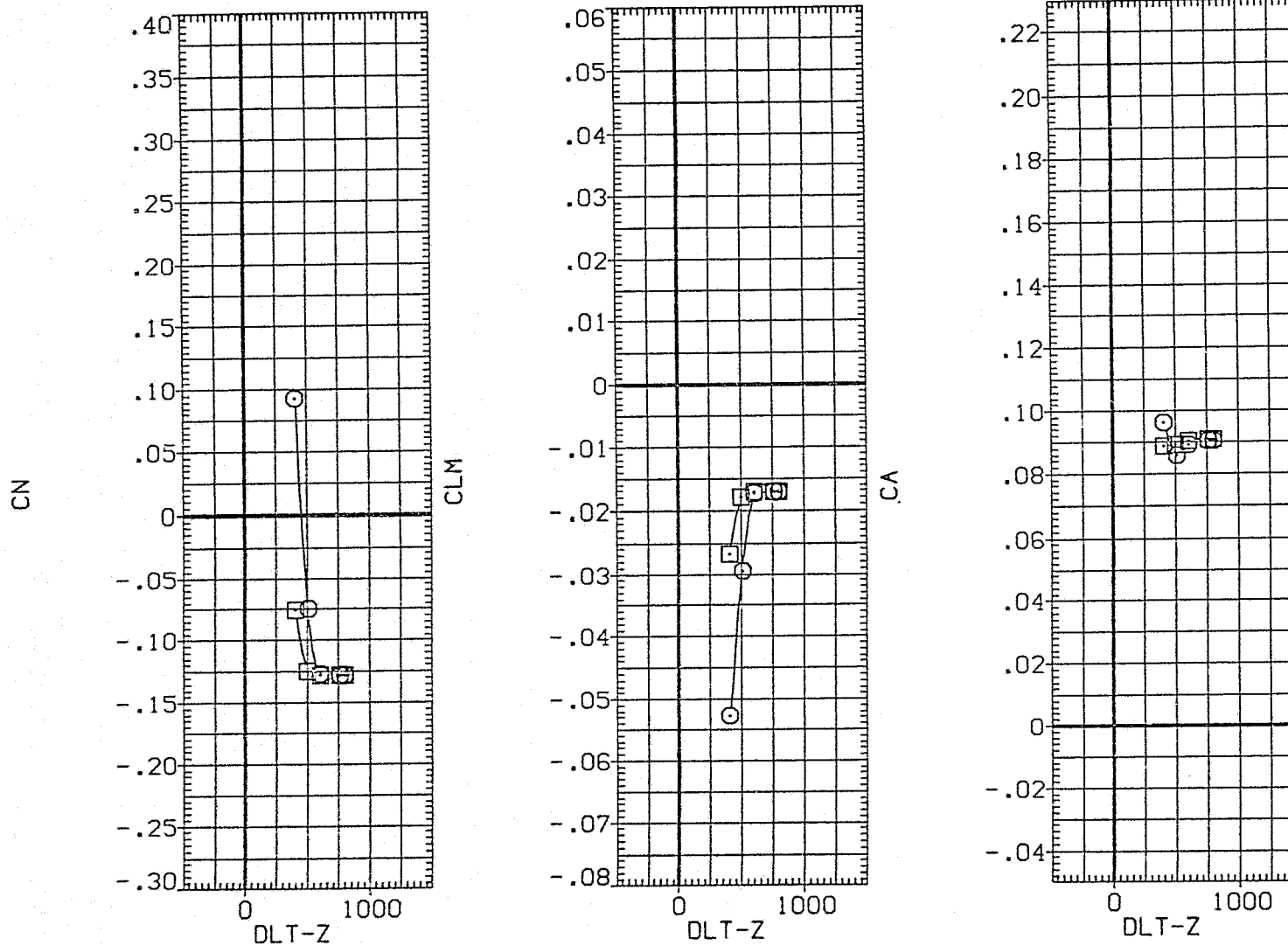


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR322)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.494	60.000	-5.000	-10.000	5.930	15.000
□	400.400	BETA	.000	3.000	.000	GRID
		DLTBTA				
		AILRON				
		GRID				

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X3
YMRP	.0000	IN. Y3
ZMRP	375.0000	IN. Z3
SCALE	.0100	

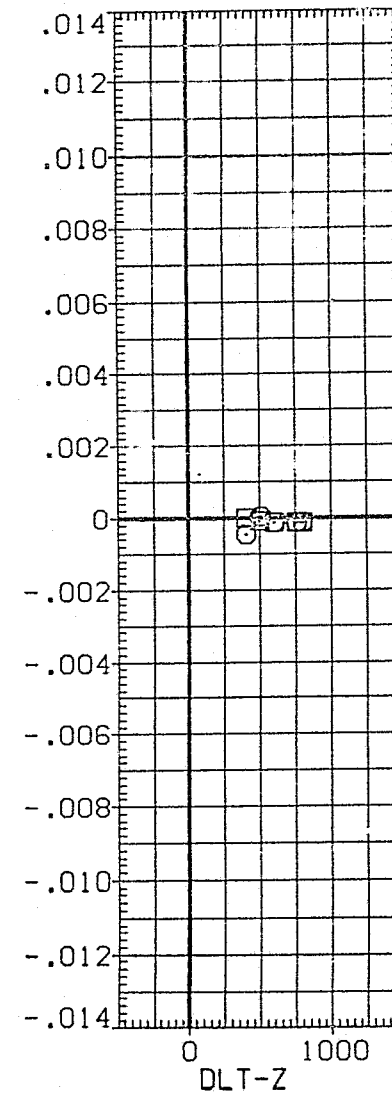
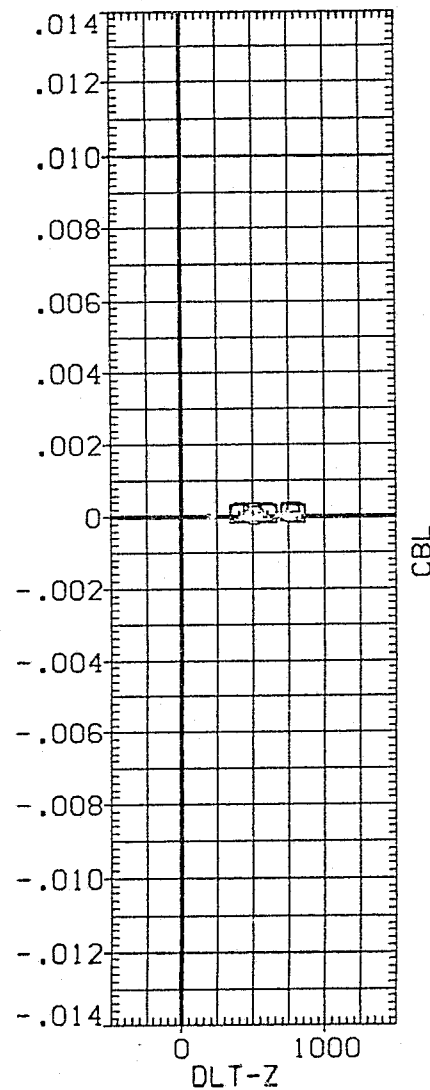
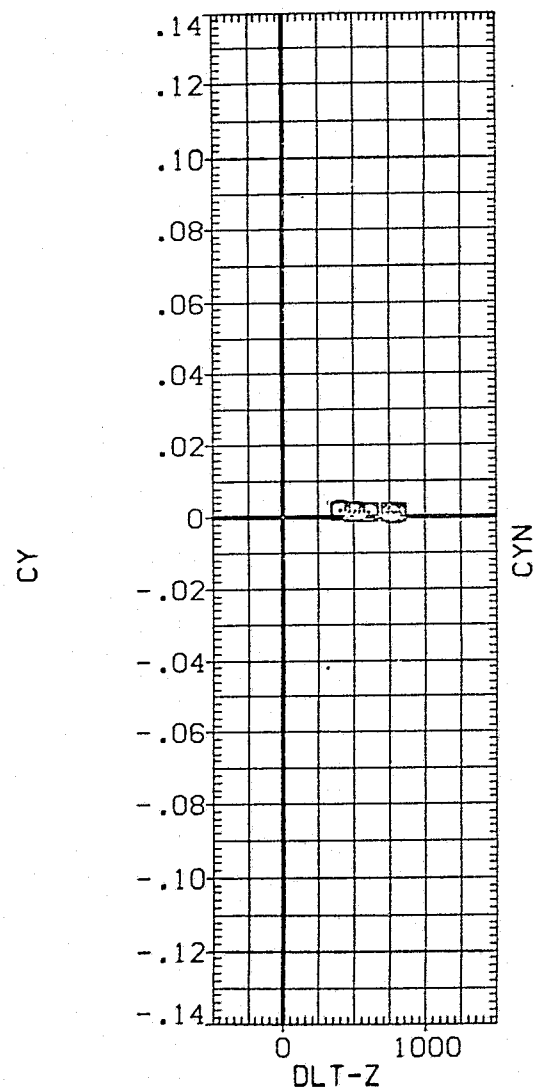


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR324)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.434	60.000	ALPHA	-5.000
□	400.400	.000	DLTALF	-20.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

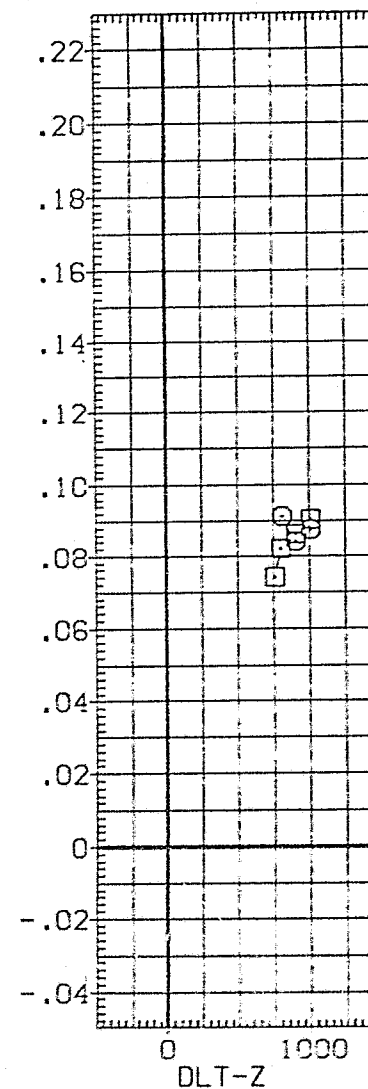
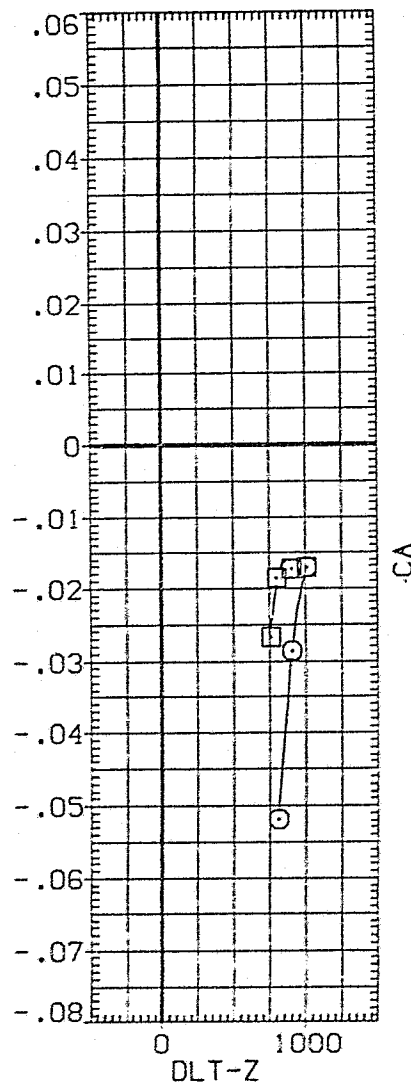
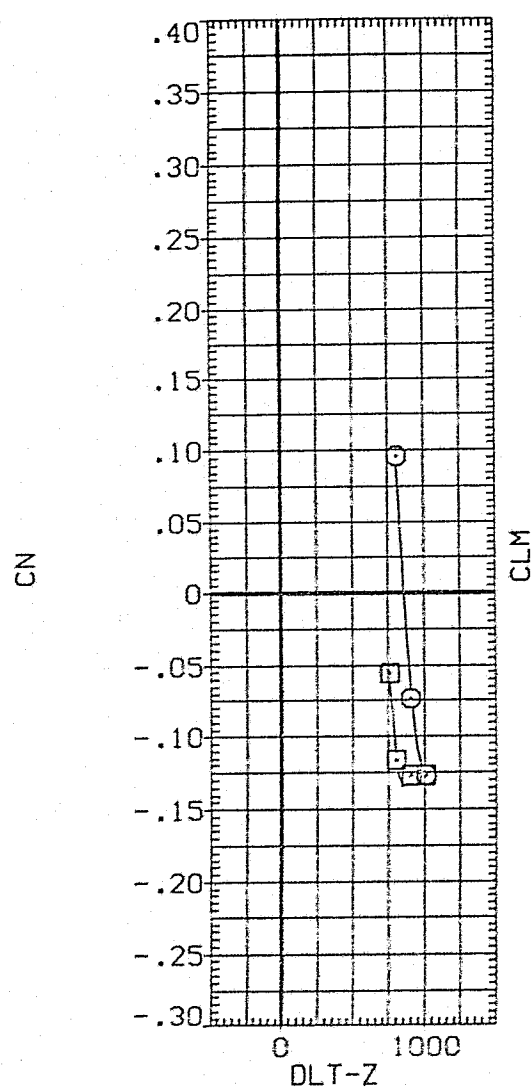


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR324)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
□	.434	BETA	60.000	-5.000
□	400.400	DLTBTA	.000	-20.000
		AILRON	3.000	5.930
		GRID	.000	ELEVON
			11.000	15.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	290.3000	IN.
XMRP	1099.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

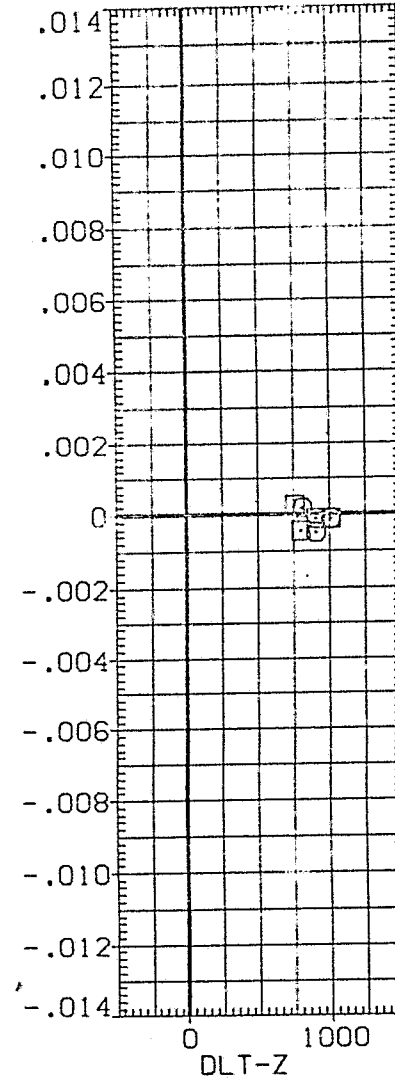
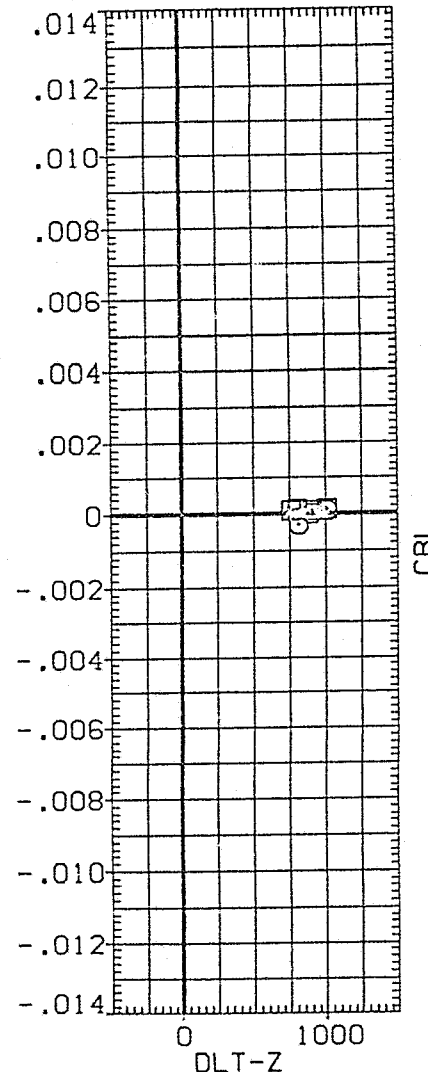
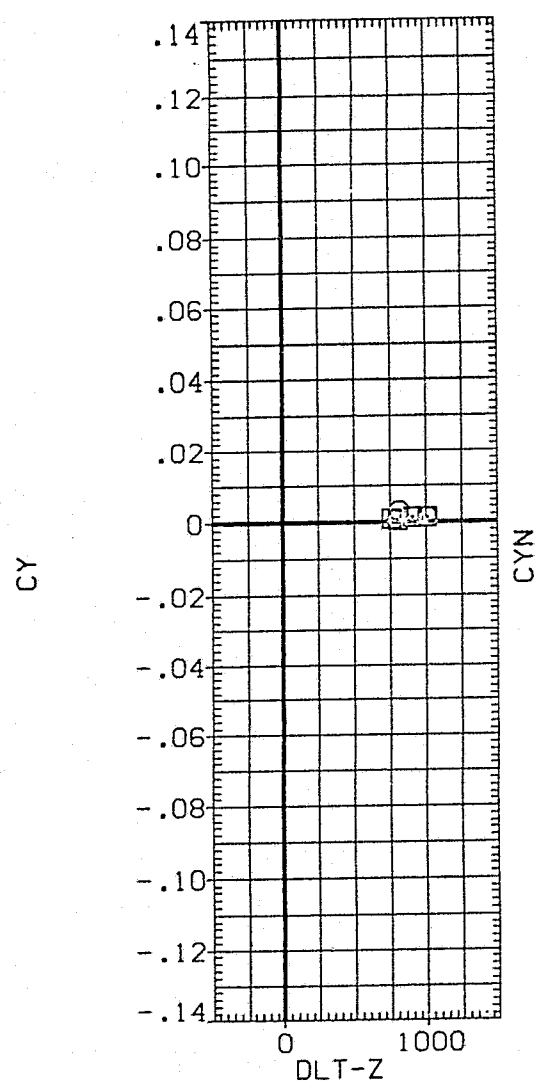


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR325)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.504	60.000	ALPHA	-10.000
□	400.450	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		10.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

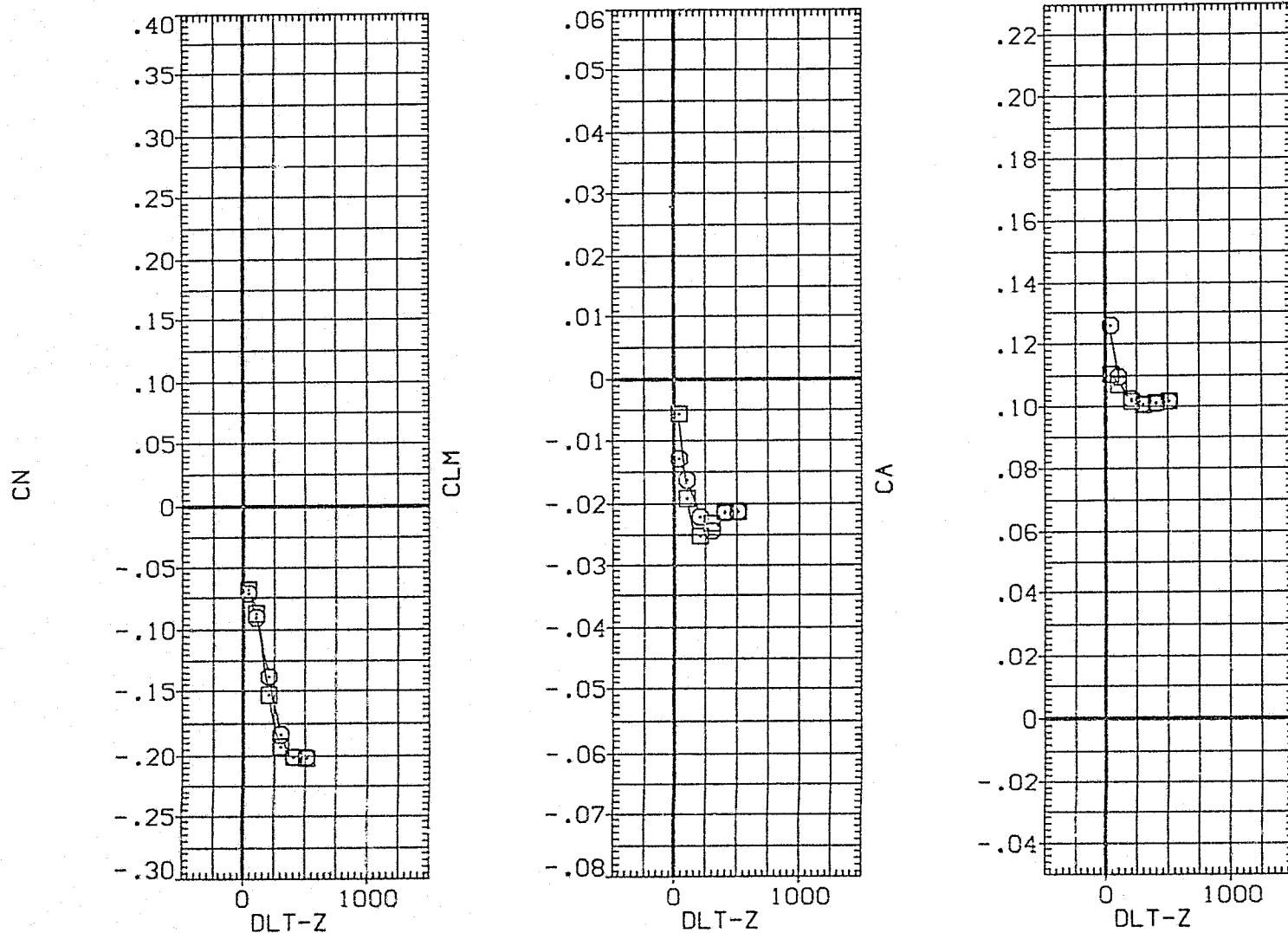


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR325)

SYMBOL	DLT-X		PARAMETRIC VALUES			
		DLT-Y		ALPHA		
○	.504		60.000	-10.000		
□	400.450	BETA	.000	DLTALF	.000	
		DLTBTA	3.000	MACH	5.930	
		AILRON	.000	ELEVON	15.000	
		GRID	10.000			

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

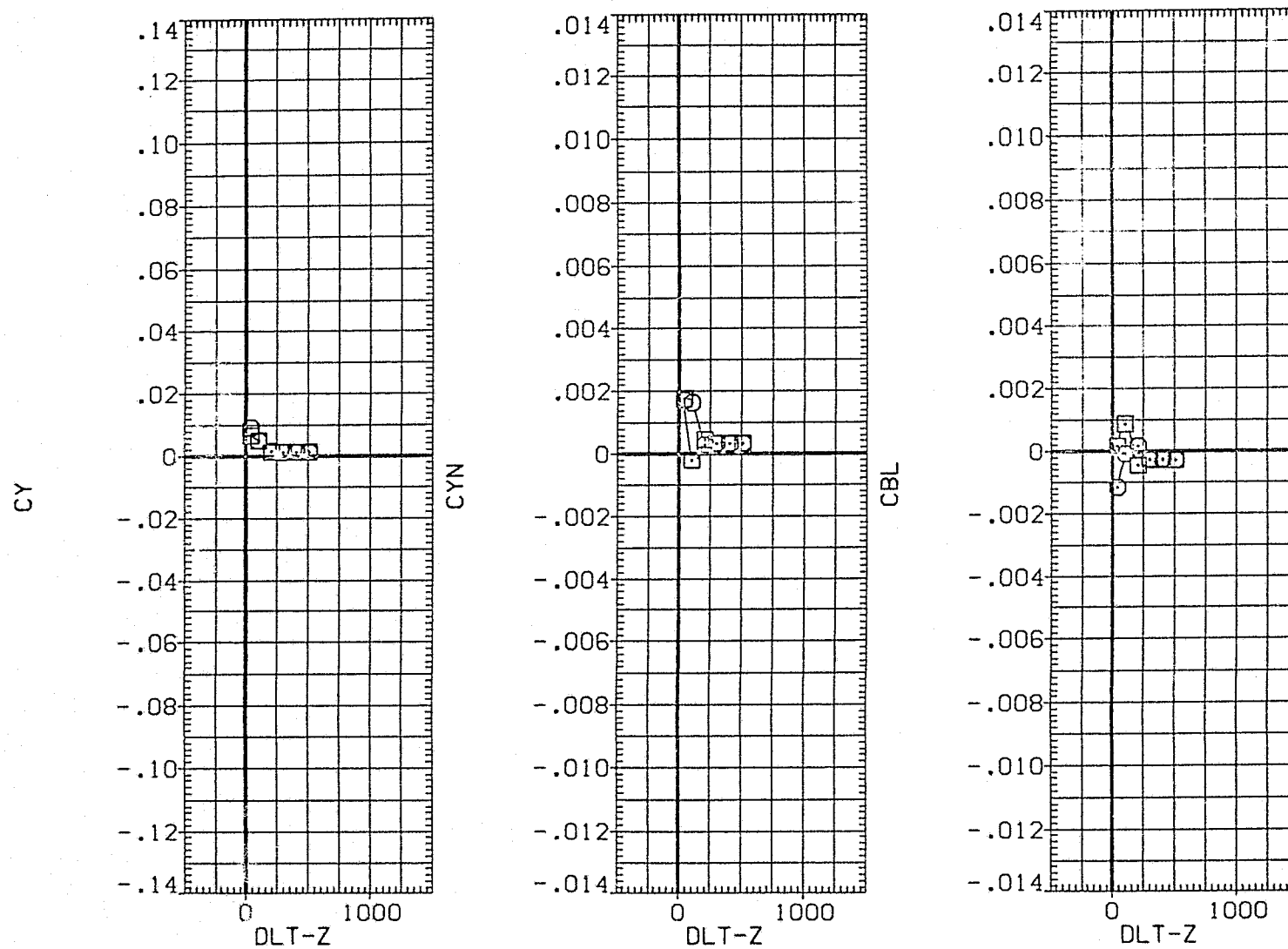


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR326)

SYMBOL		PARAMETRIC VALUES		
DLT-X	DLT-Y	60.000	ALPHA	-10.000
.451	BETA	.000	DLTALF	-10.000
400.480	DLTBTA	3.000	MACH	5.930
	AIRLRN	.000	ELEVON	15.000
	GRID	10.000		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

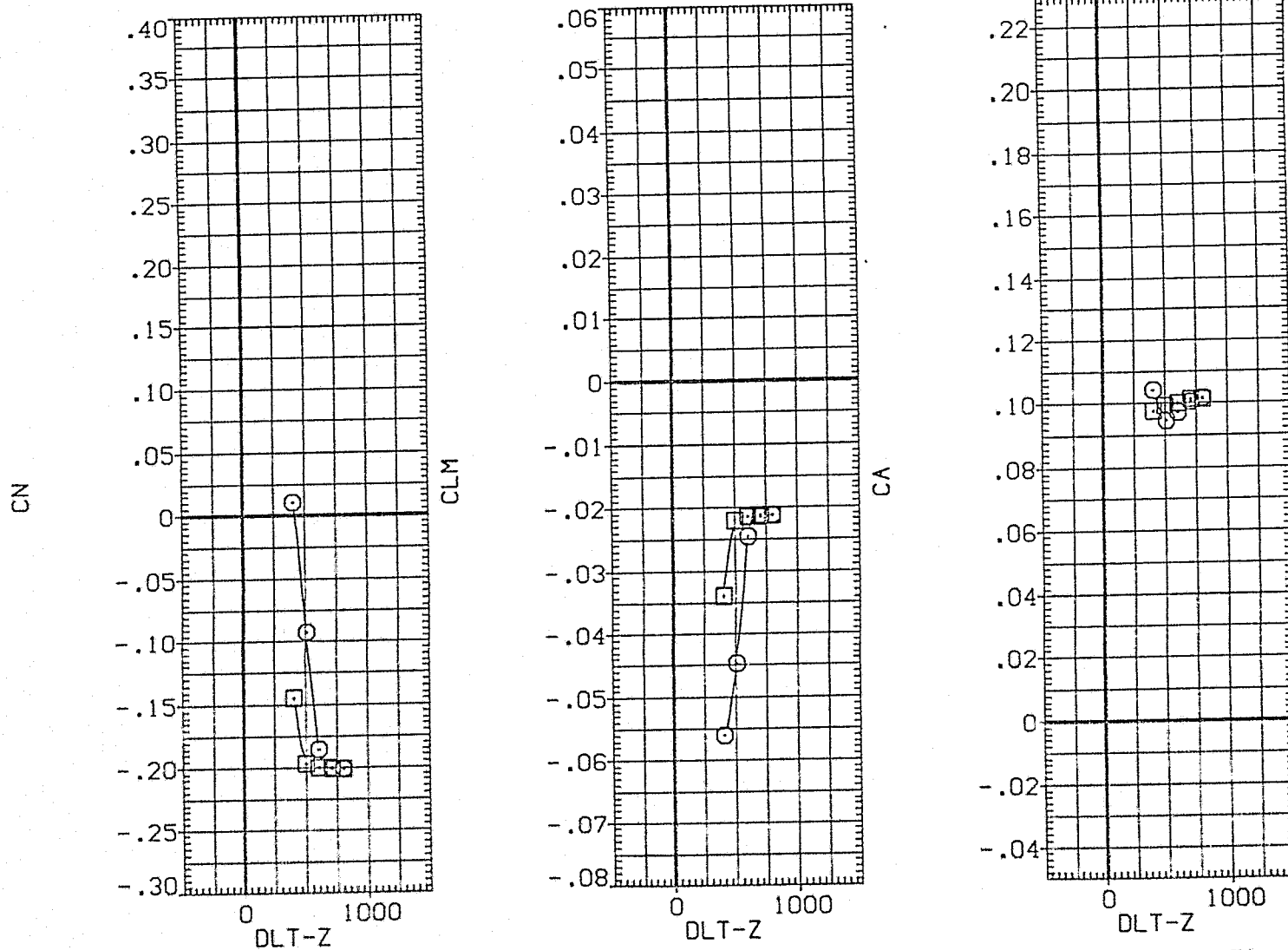


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR326)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.451	60.000	ALPHA	-10.000
□	400.480	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	15.000
		10.000		

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X3
YMRP	.0000	IN. Y3
ZMRP	375.0000	IN. Z3
SCALE	.0100	

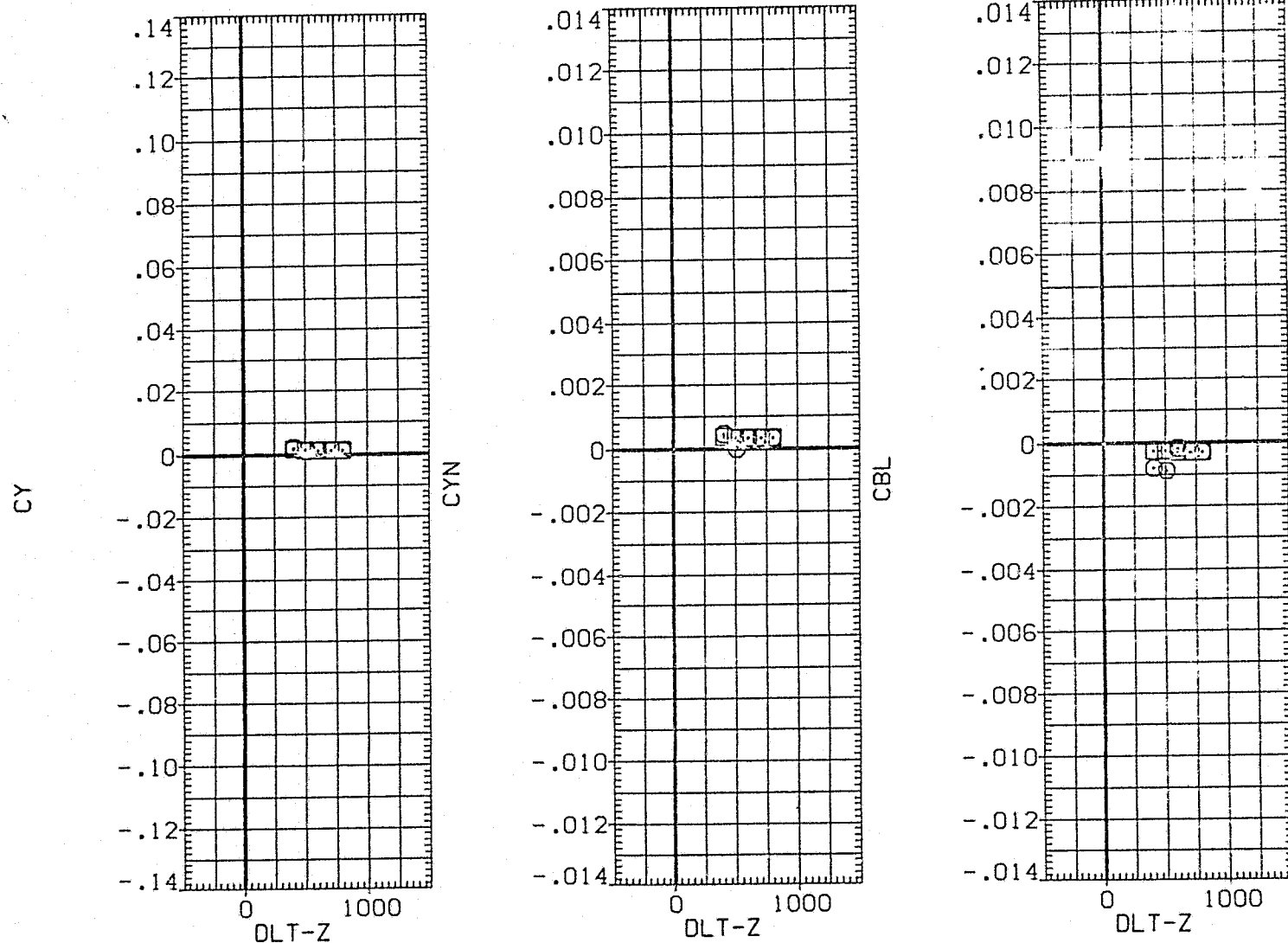


FIGURE 14 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR269)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.513	DLT-Y 60.000 ALPHA .000
□	400.560	BETA .000 DLTALF .000
		DLTBTA 3.000 MACH 5.930
		AILRON .000 ELEVON -20.000
		GRID 13.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

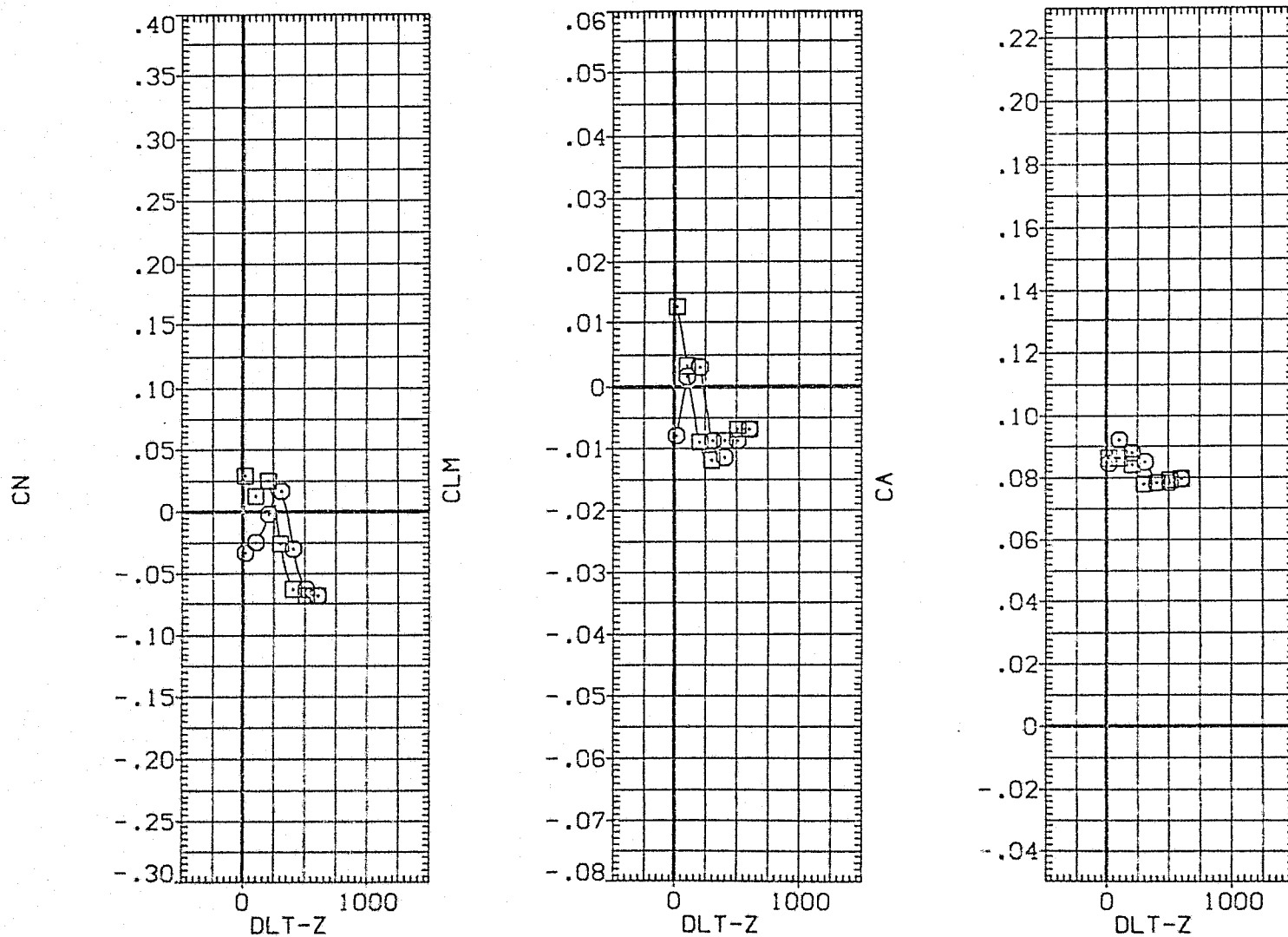


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR269)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.513	60.000	DLTALF	.000	
□	400.560	.000	MACH	5.930	
		3.000	ELEVON	-20.000	
		.000			
		13.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

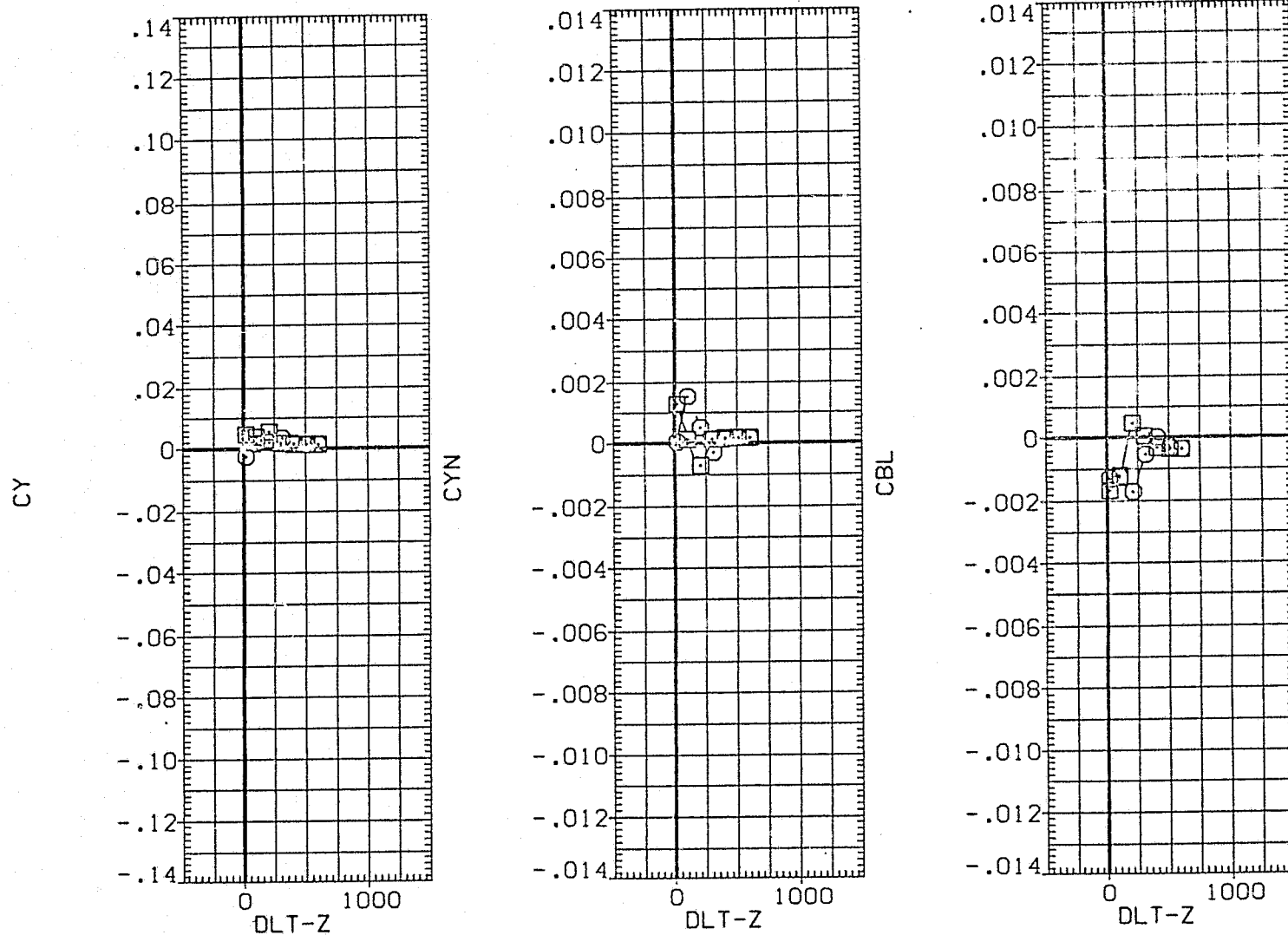


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR270)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.514	60.000	ALPHA	.000
□	400.350	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	-20.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XO
YMRF	.0000	IN. YO
ZMRF	375.0000	IN. ZO
SCALE	.0100	

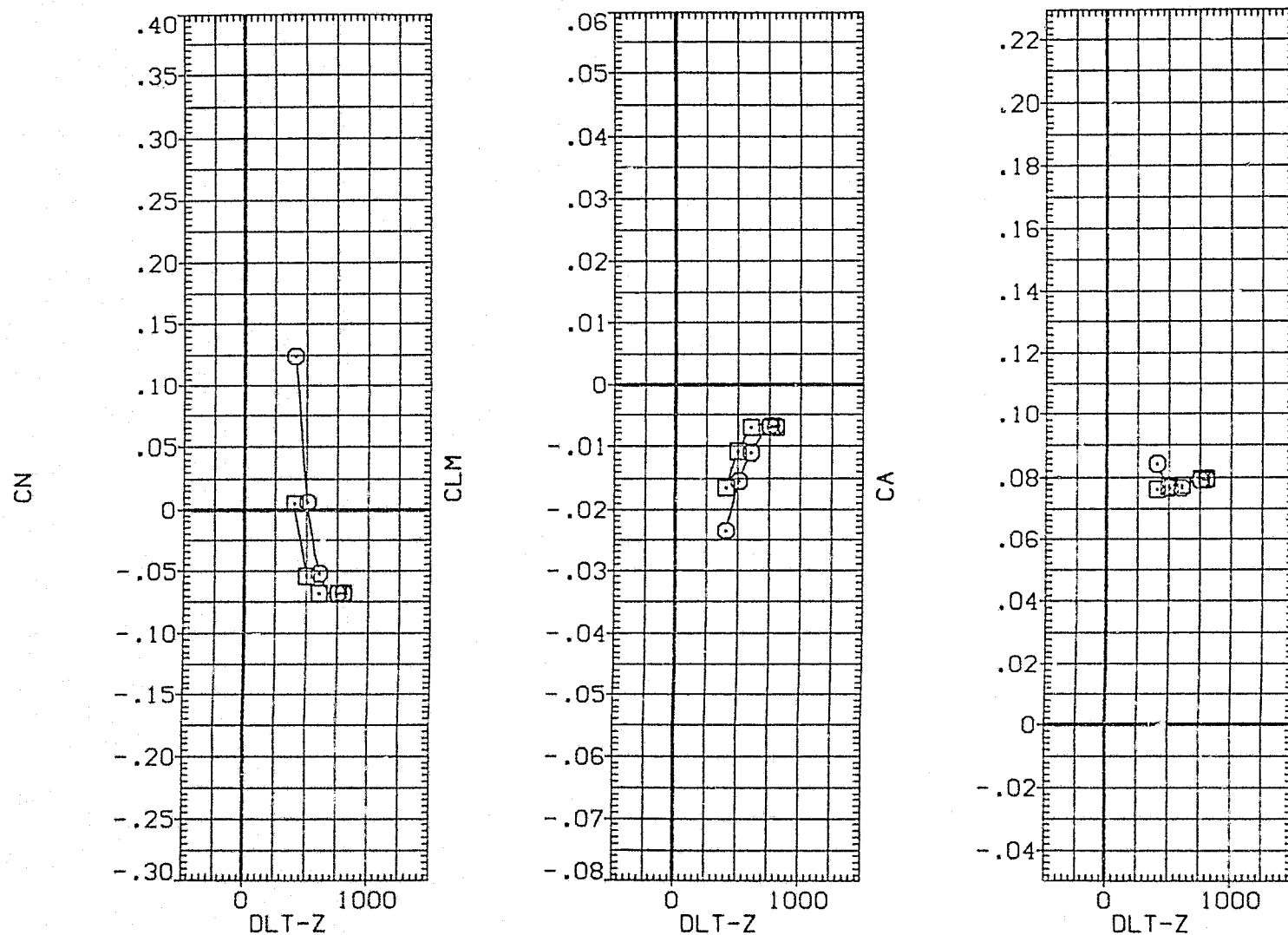


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR270)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.514	60.000	ALPHA	.000
□	400.350	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	-20.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YD
ZMRP	375.0000	IN. ZD
SCALE	.0100	

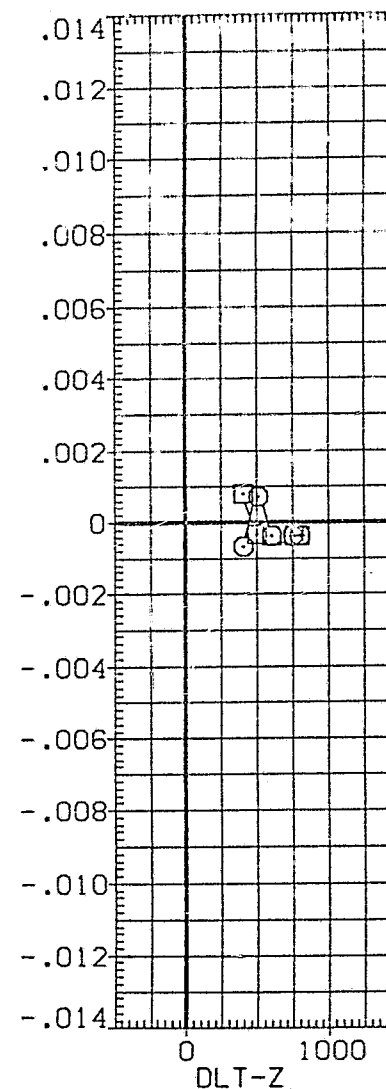
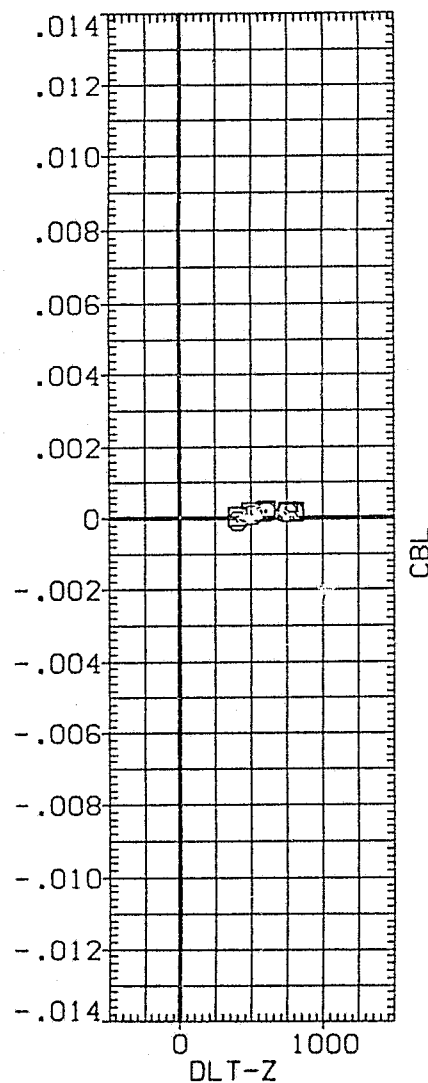
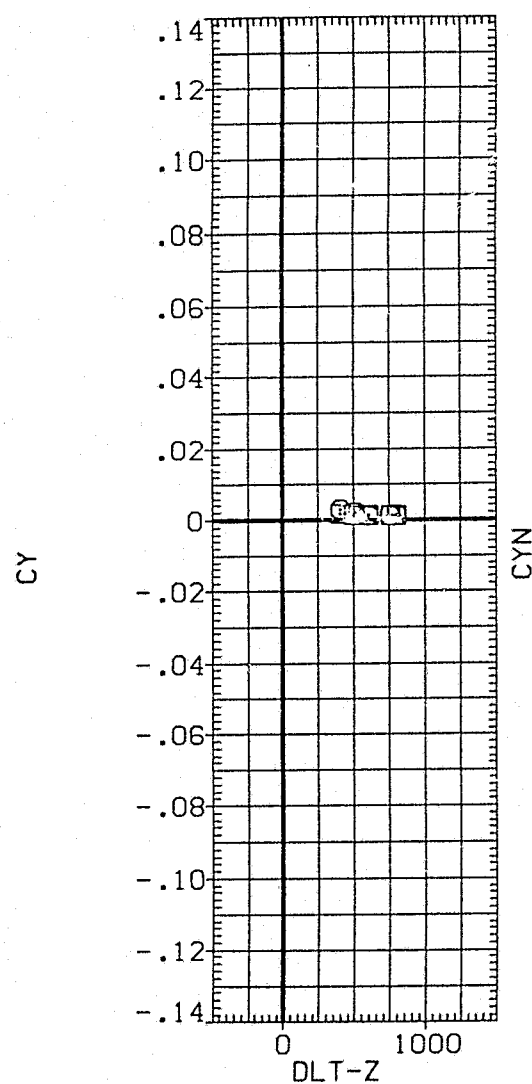


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR272)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.531	60.000	DLTALF	.000	
□	400.460	.000	MACH	-20.000	
		3.000	ELEVON	5.930	
		.000		-20.000	
		13.000			

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. XO
YMRP	.0000 IN. YO
ZMRP	375.0000 IN. ZO
SCALE	.0100

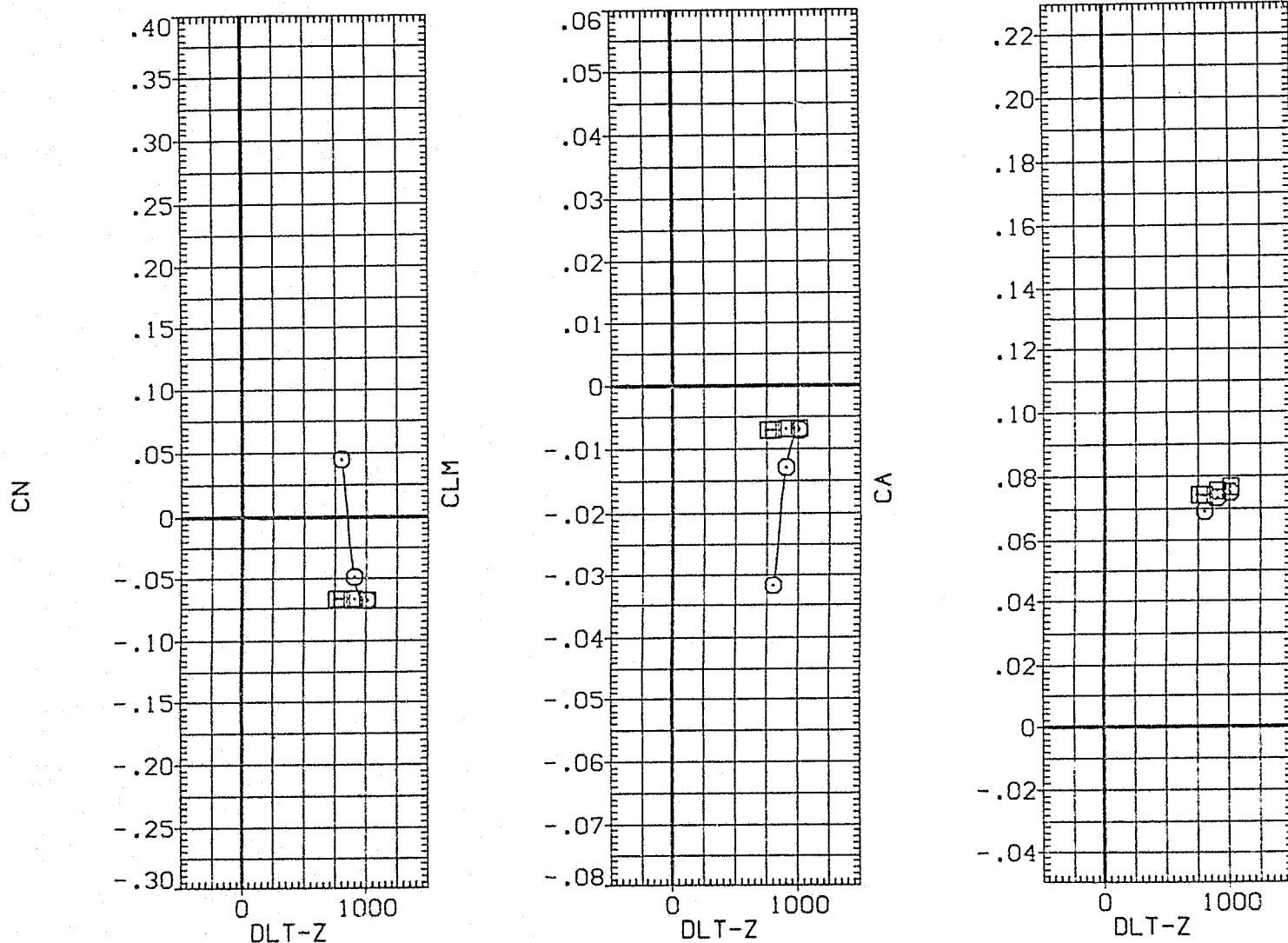


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR272)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.531	BETA	60.000	ALPHA
□	400.460	DLTBT	.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			13.000	-20.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZC
SCALE	.0100	

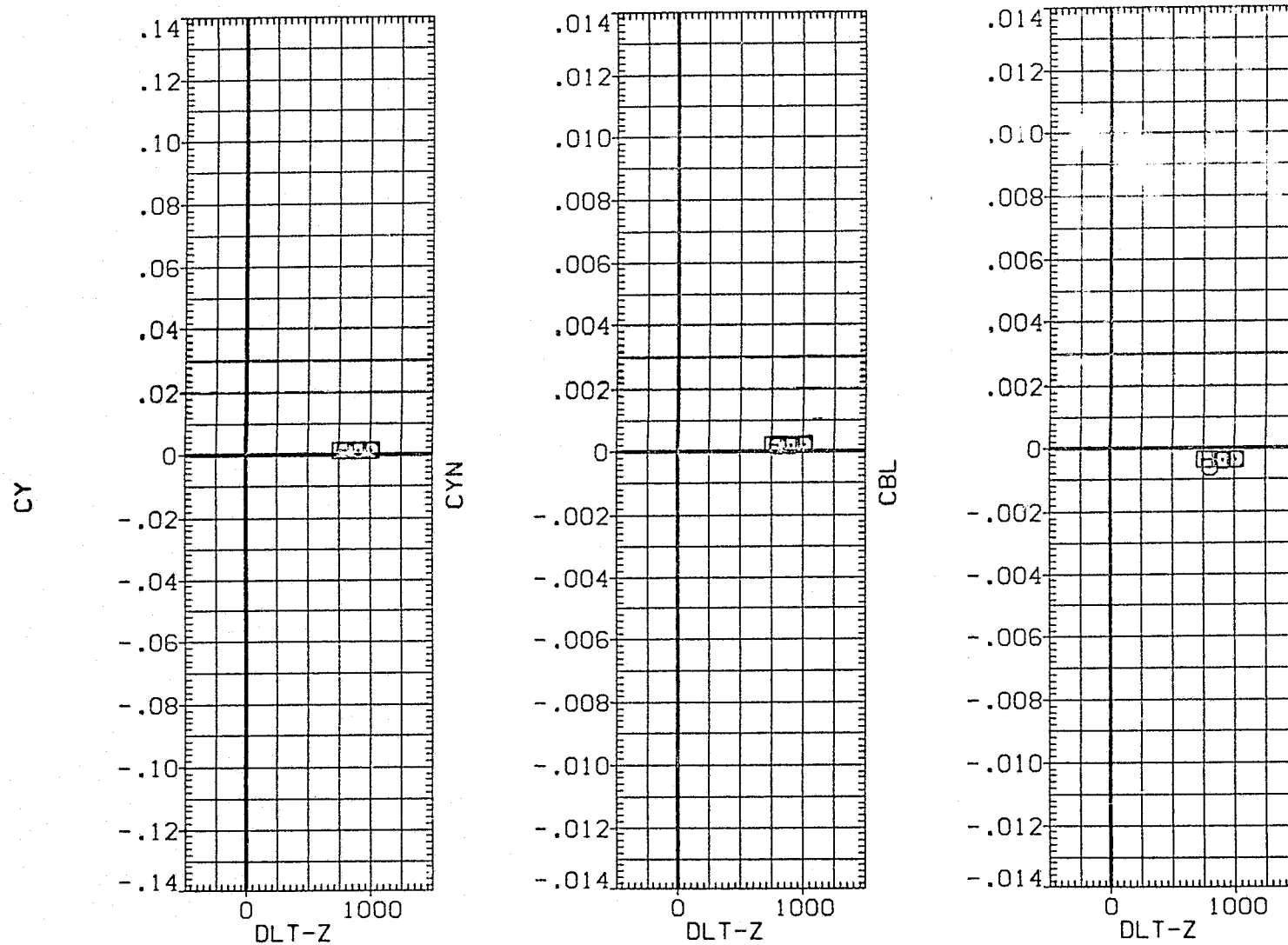


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR273)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.617	60.000	ALPHA .000
		BETA 3.000	DLTALF .000
		DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON -20.000
		GRID 14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

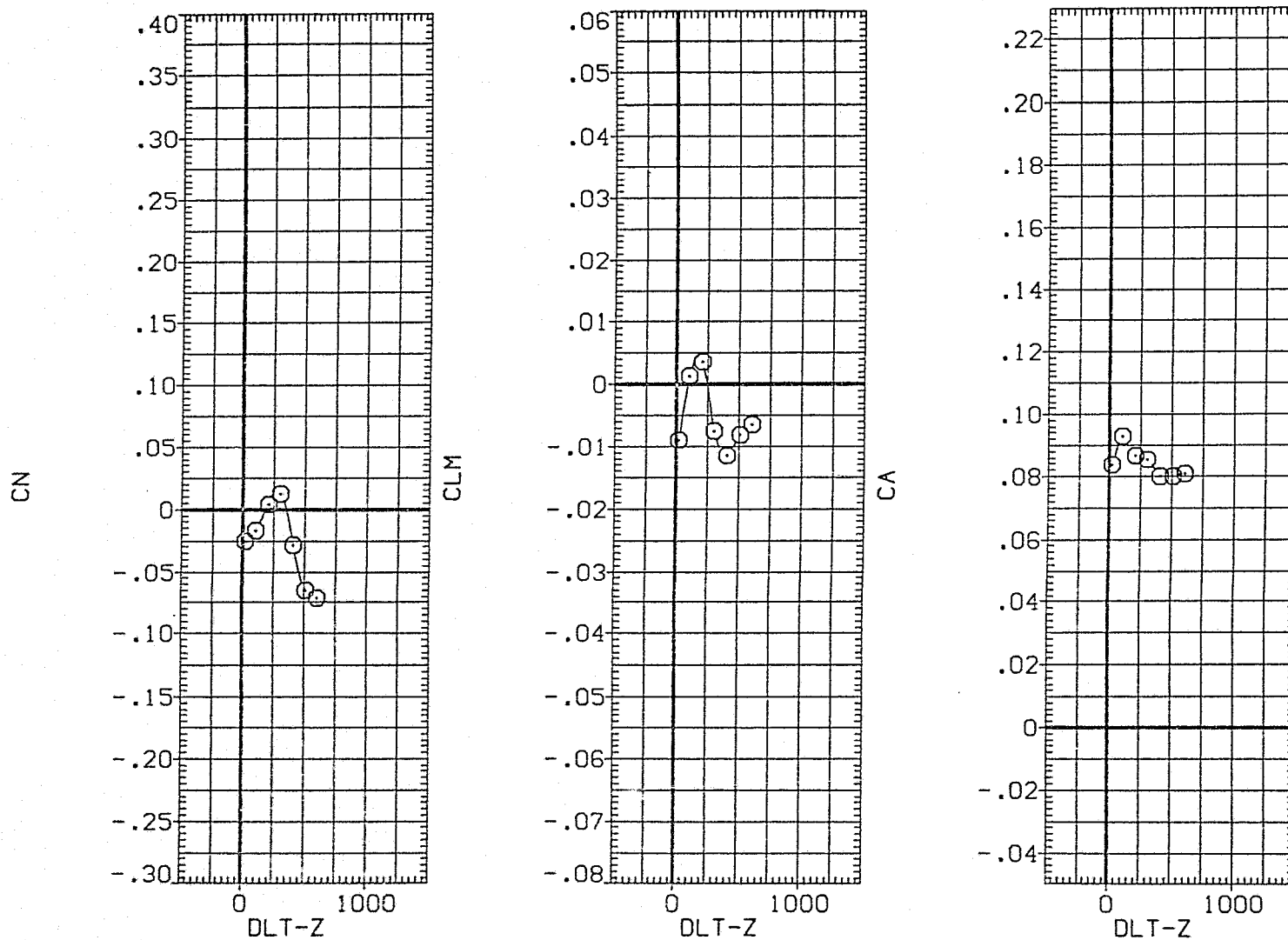


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR273)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.617	BETA	60.000	.000	
		DLTBTA	3.000	.000	
		AILRON	.000	MACH	5.930
		GRID	14.000	ELEVON	-20.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. XO
YMRF	.0000	IN. YO
ZMRF	375.0000	IN. ZO
SCALE	.0100	

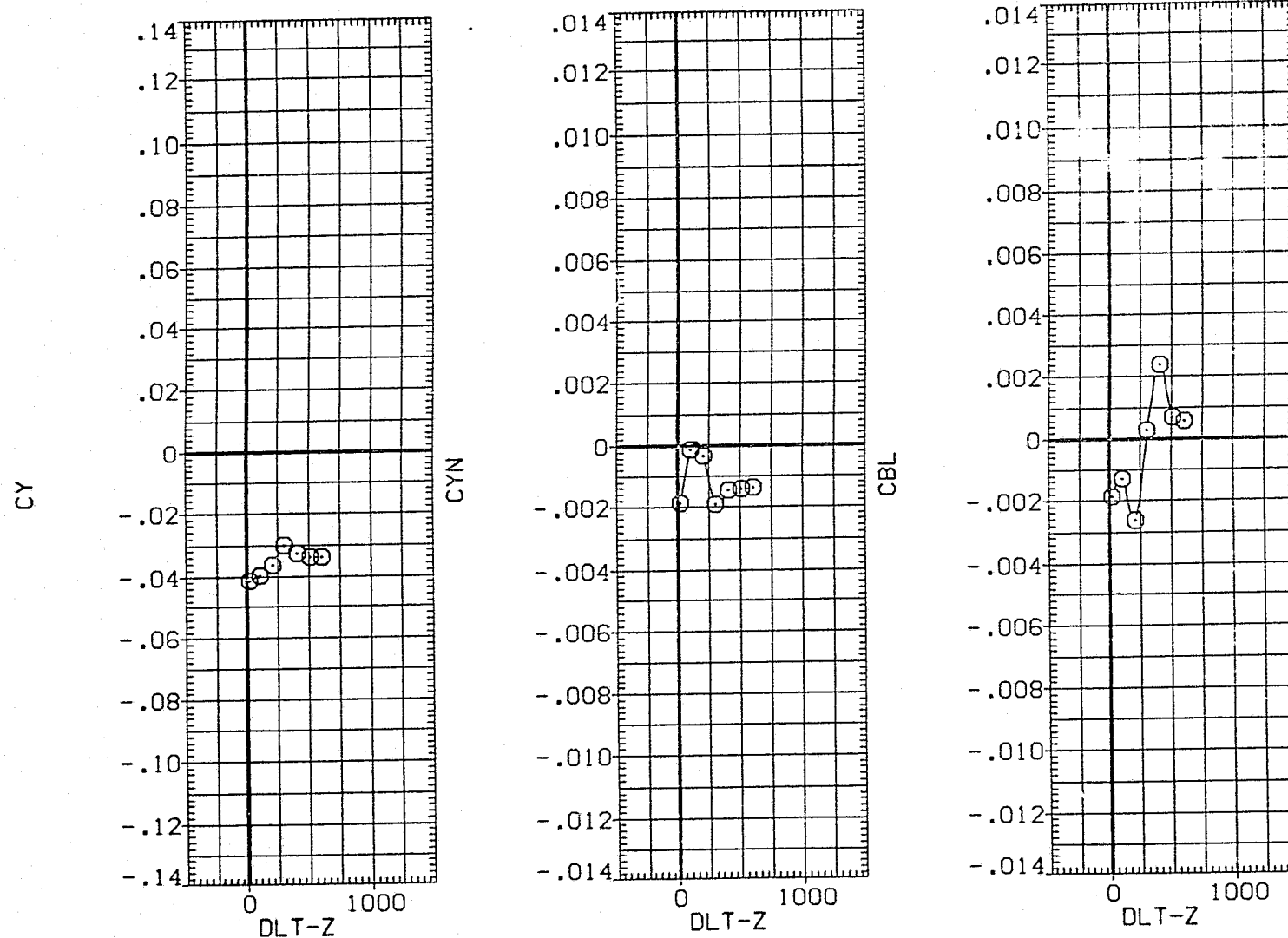


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR274)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.547	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-10.000
		DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	-20.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

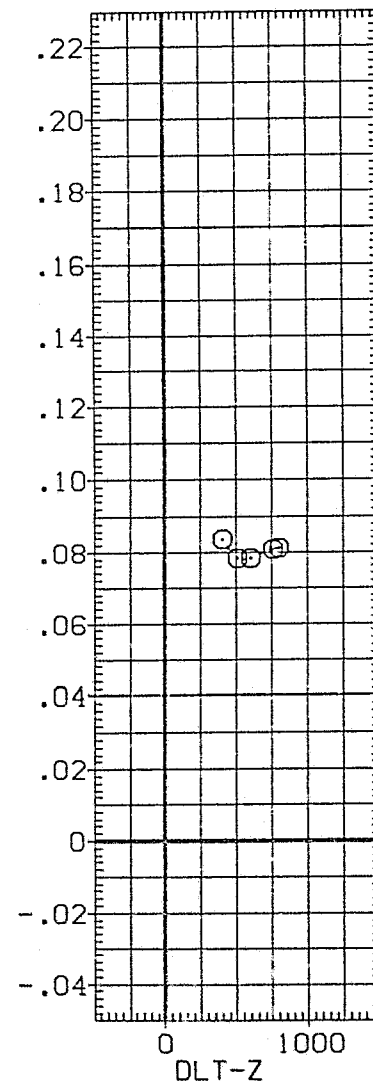
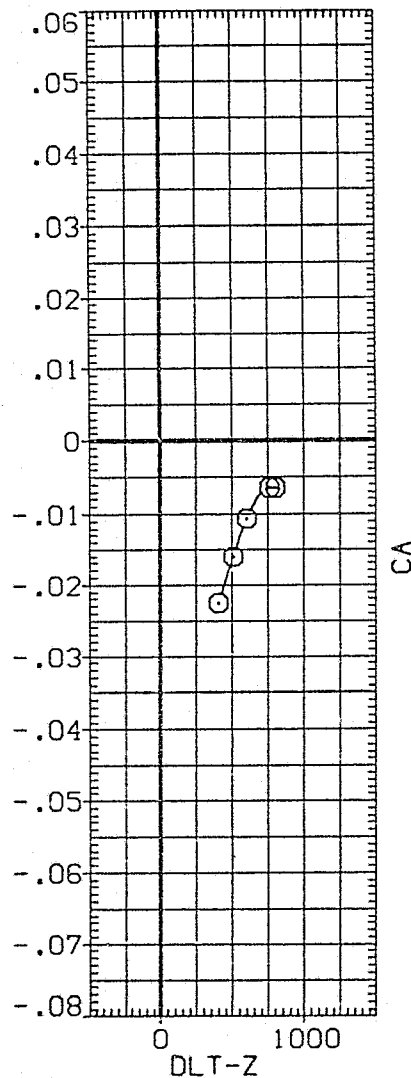
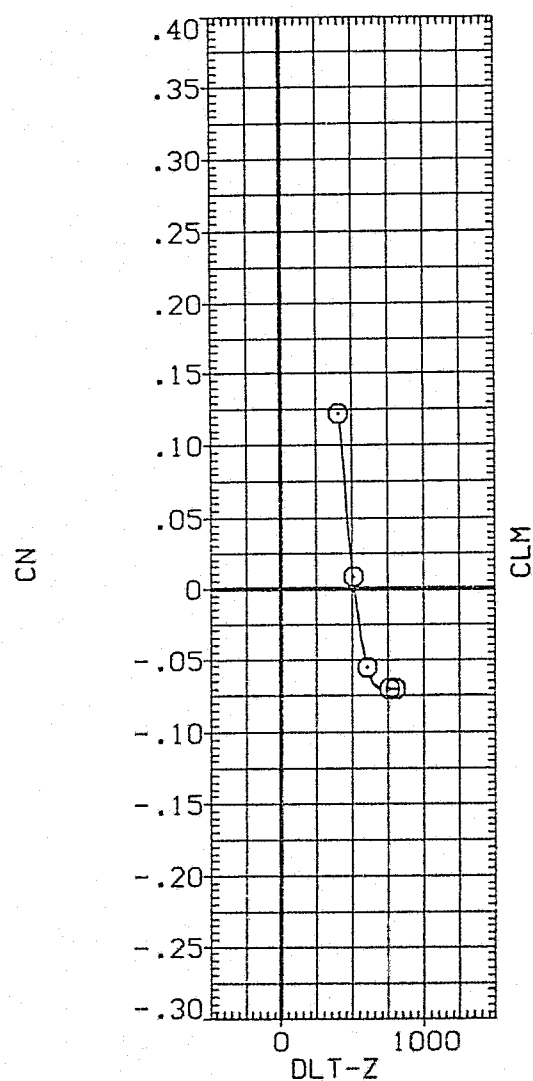


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR274)

SYMBOL		DLT-X		PARAMETRIC VALUES	
O		.547		ALPHA .000	
		DLT-Y		DLTALF -10.000	
		BETA 3.000		MACH 5.930	
		DLTBT A 3.000		ELEVON -20.000	
		AILRON .000			
		GRID 14.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

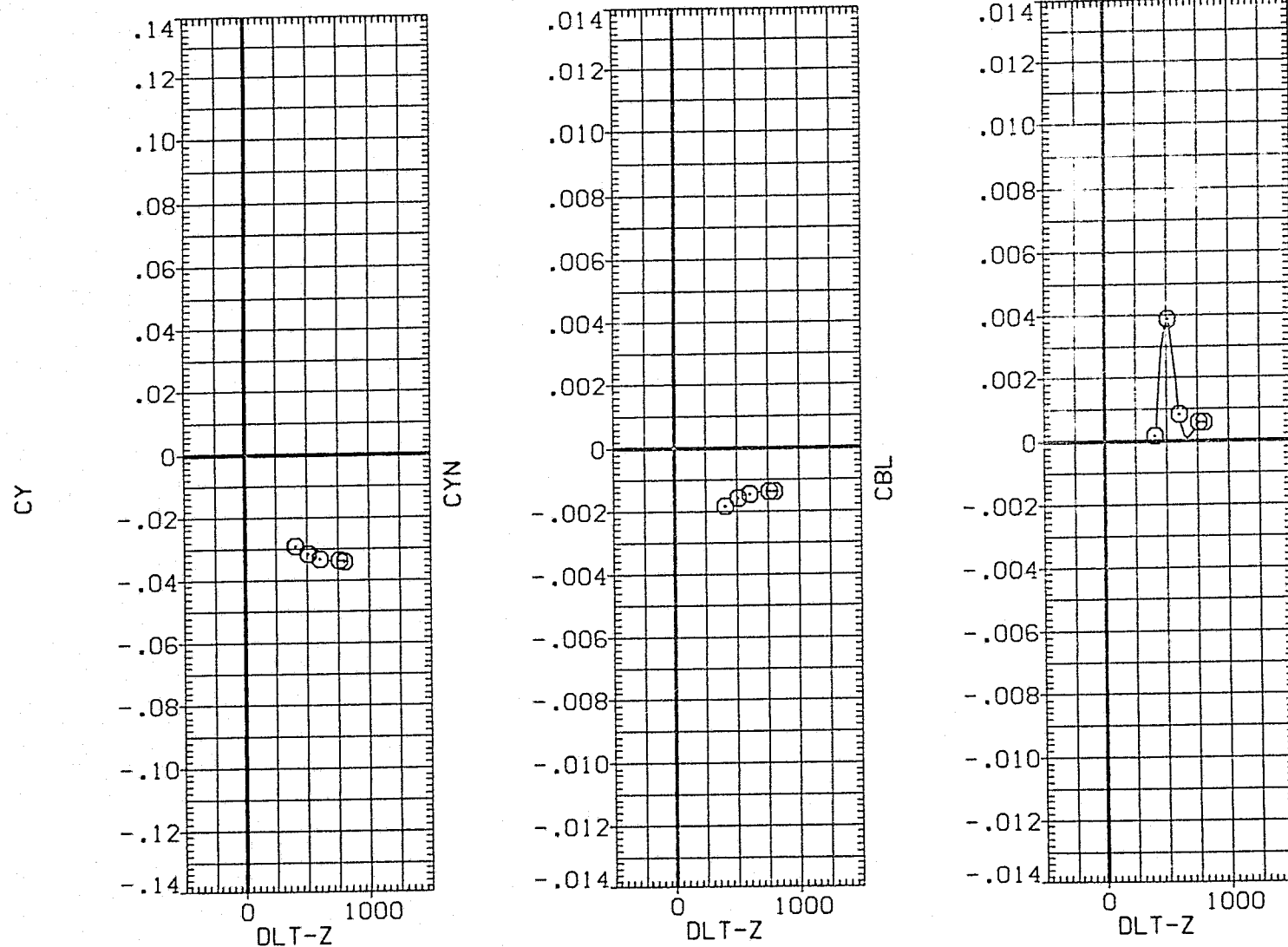


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR275)

SYMBOL	DLT-X	PARAMETRIC VALUES
○	.462	DLT-Y 60.000 ALPHA .000
		BETA 3.000 DLTALF -20.000
		DLTBTA 3.000 MACH 5.930
		AILRON .000 ELEVON -20.000
		GRID 14.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

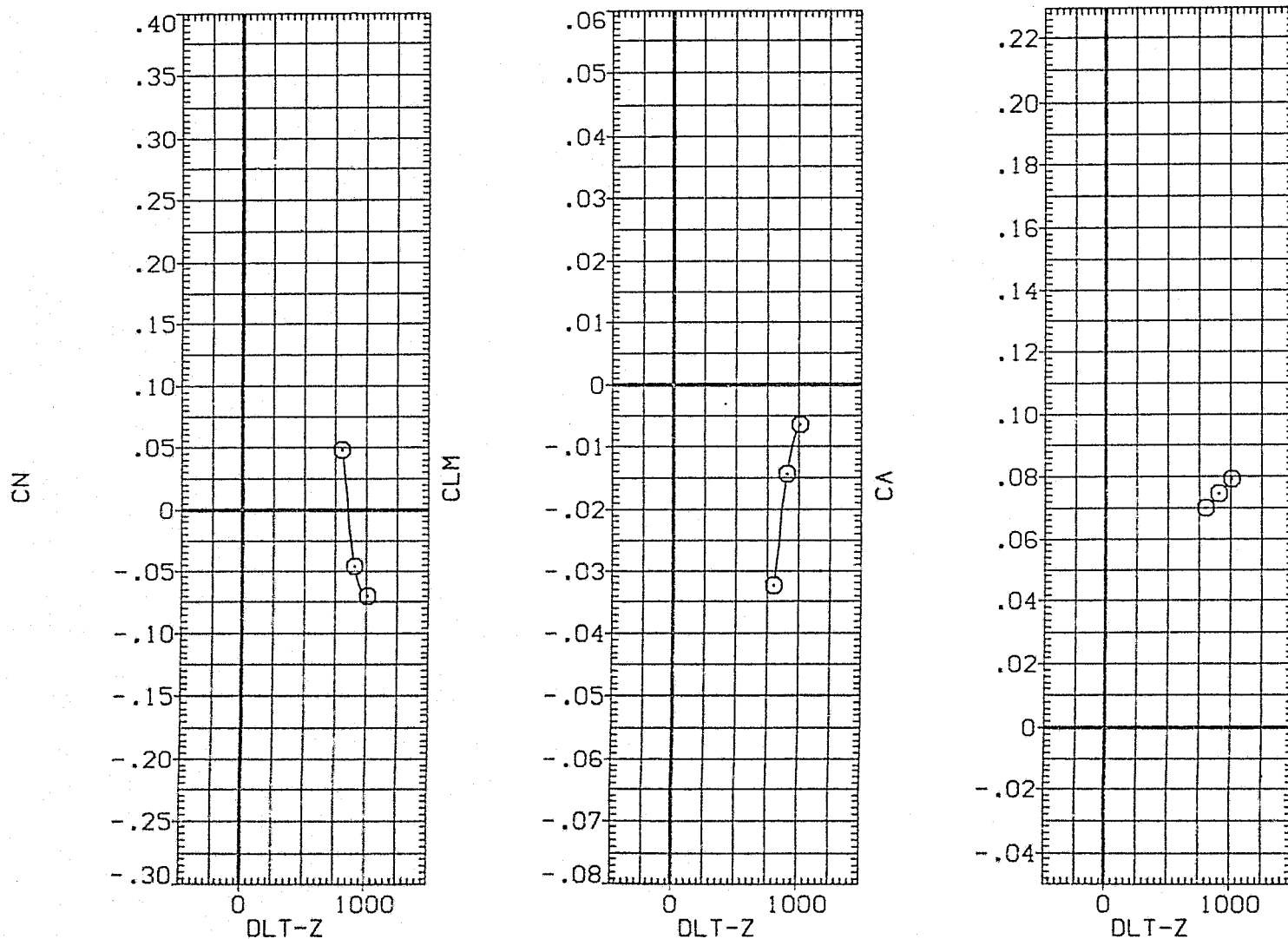


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR275)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.462	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-20.000
		DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	-20.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

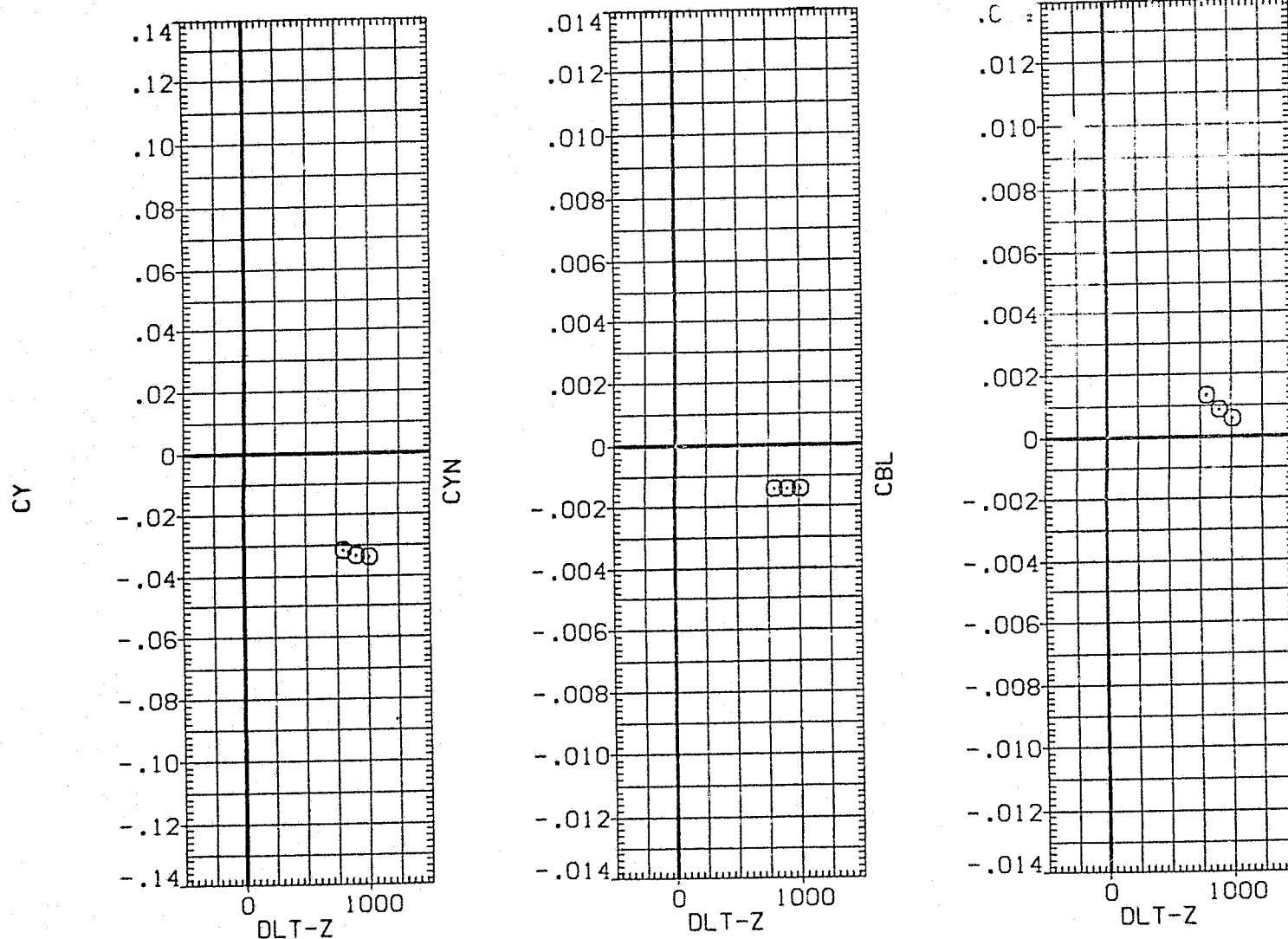


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR265)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.616	BETA	60.000	ALPHA 5.000
□	400.560	DLTBT	.000	DLTALF .000
		AILRON	3.000	MACH 5.930
		GRID	.000	ELEVON -20.000
			12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

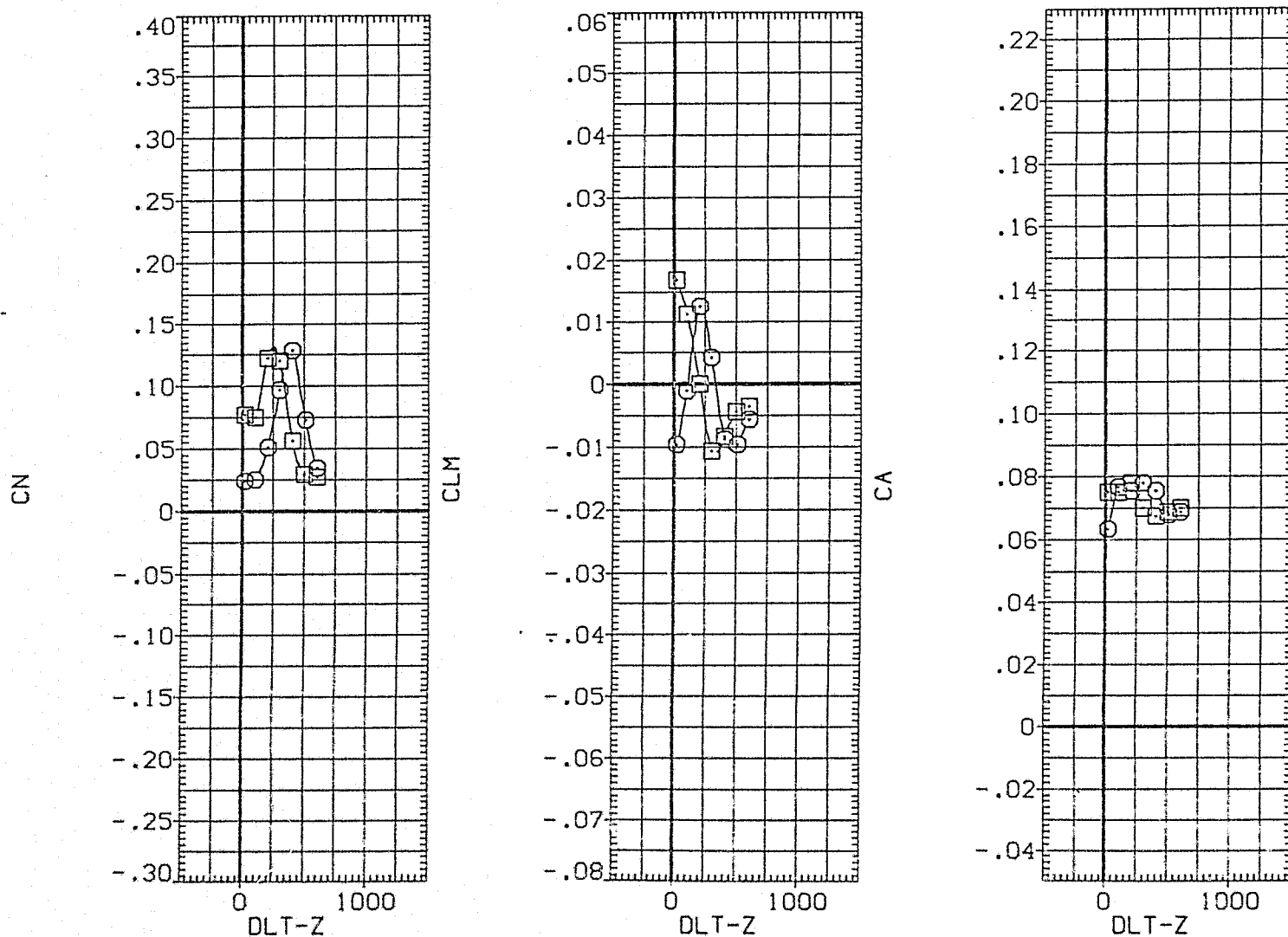


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR265)

SYMBOL
○
□

DLT-X
.616
400.560

DLT-Y
60.000
BETA
DLTBTA
3.000
AILRON
.000
GRID
12.000

PARAMETRIC VALUES

ALPHA 5.000
DLTALF .000
MACH 5.930
ELEVON -20.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

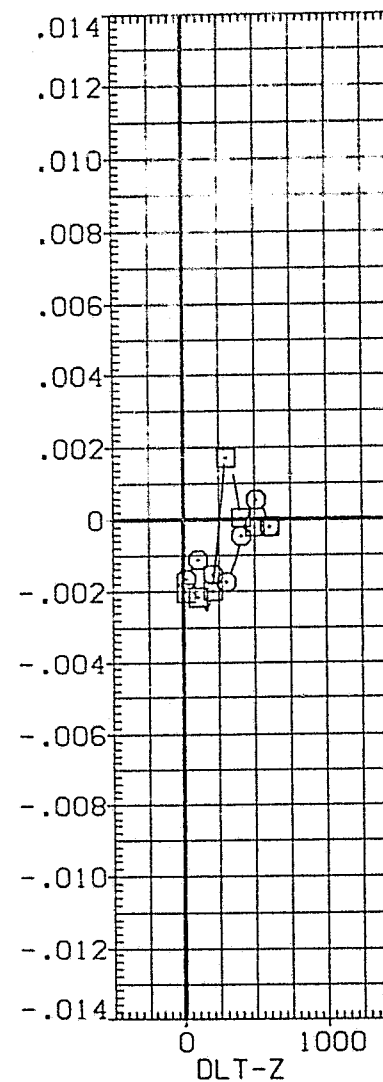
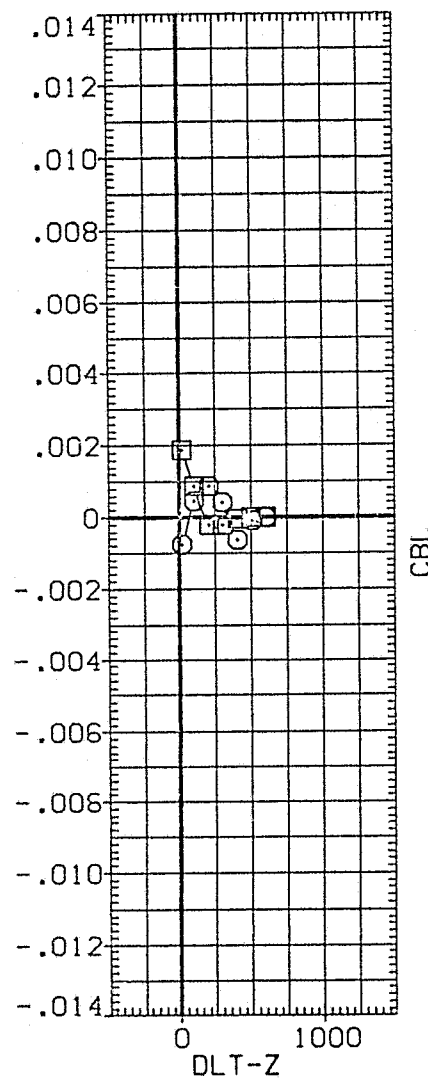
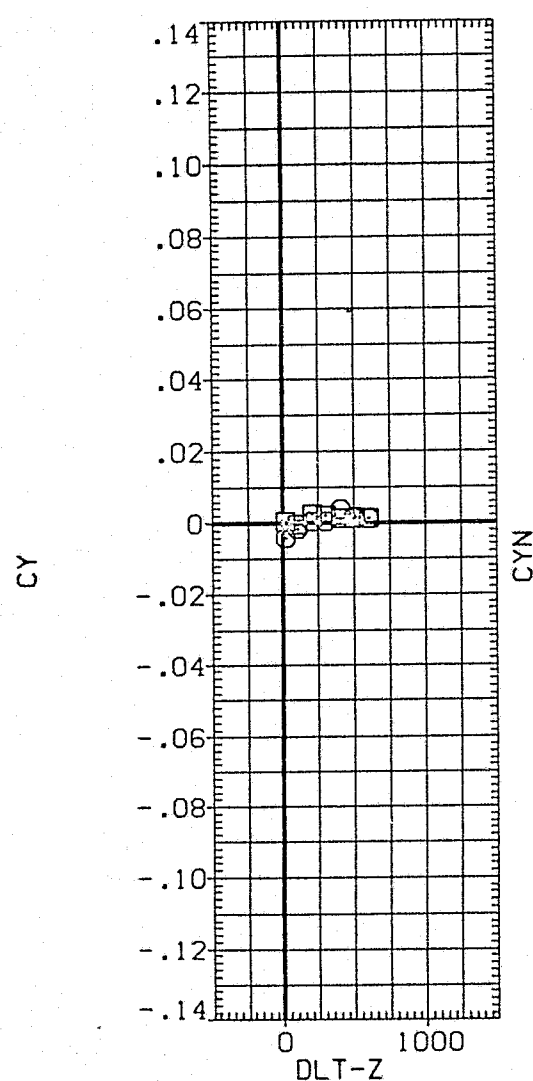


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR266)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.523	60.000	BETA	5.000
□	400.600	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	-20.000
		12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

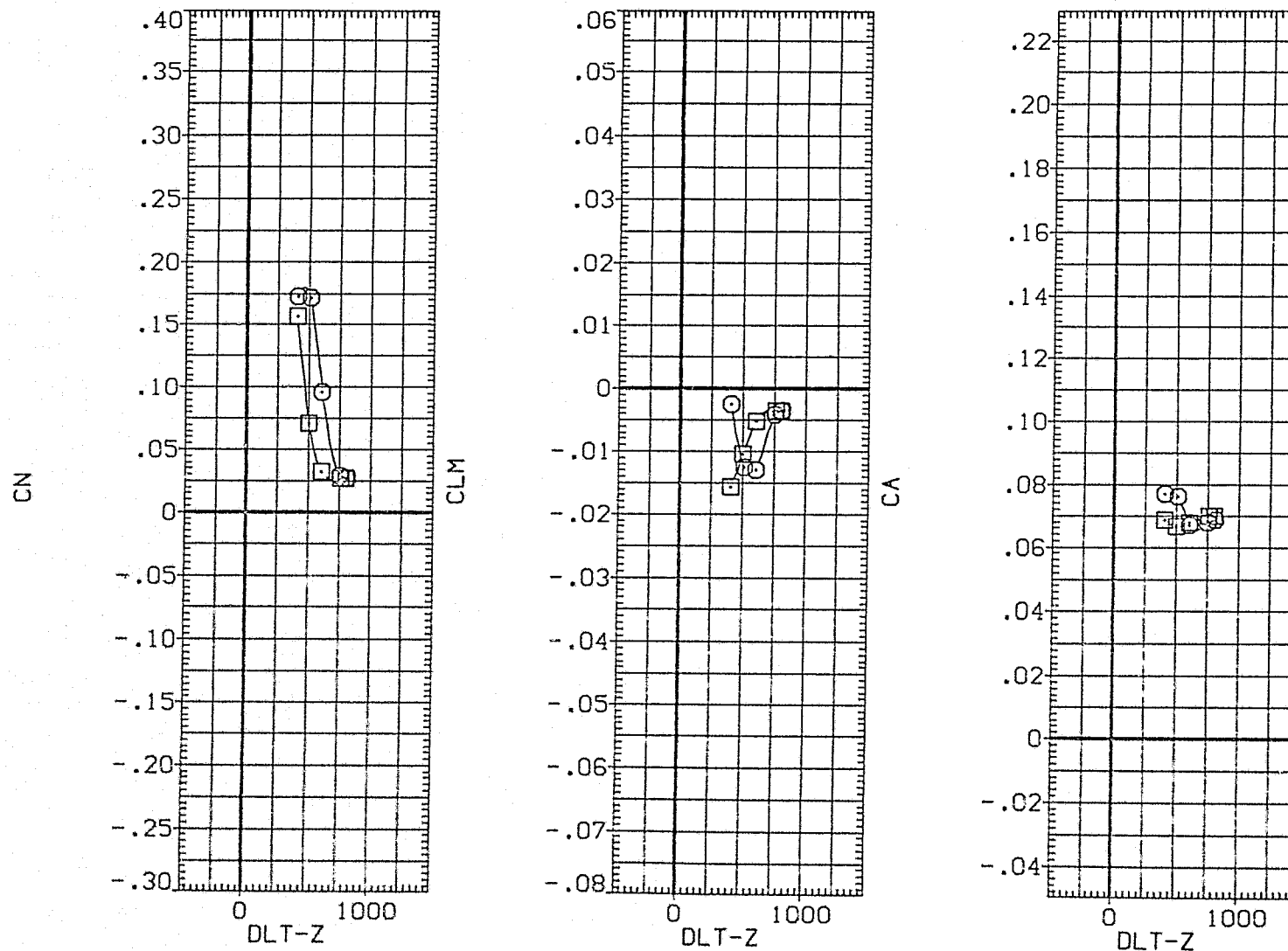


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR266)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	60.000	ALPHA	5.000
○	.523	BETA	.000	DLTALF	-10.000
□	400.600	DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	-20.000
		GRID	12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

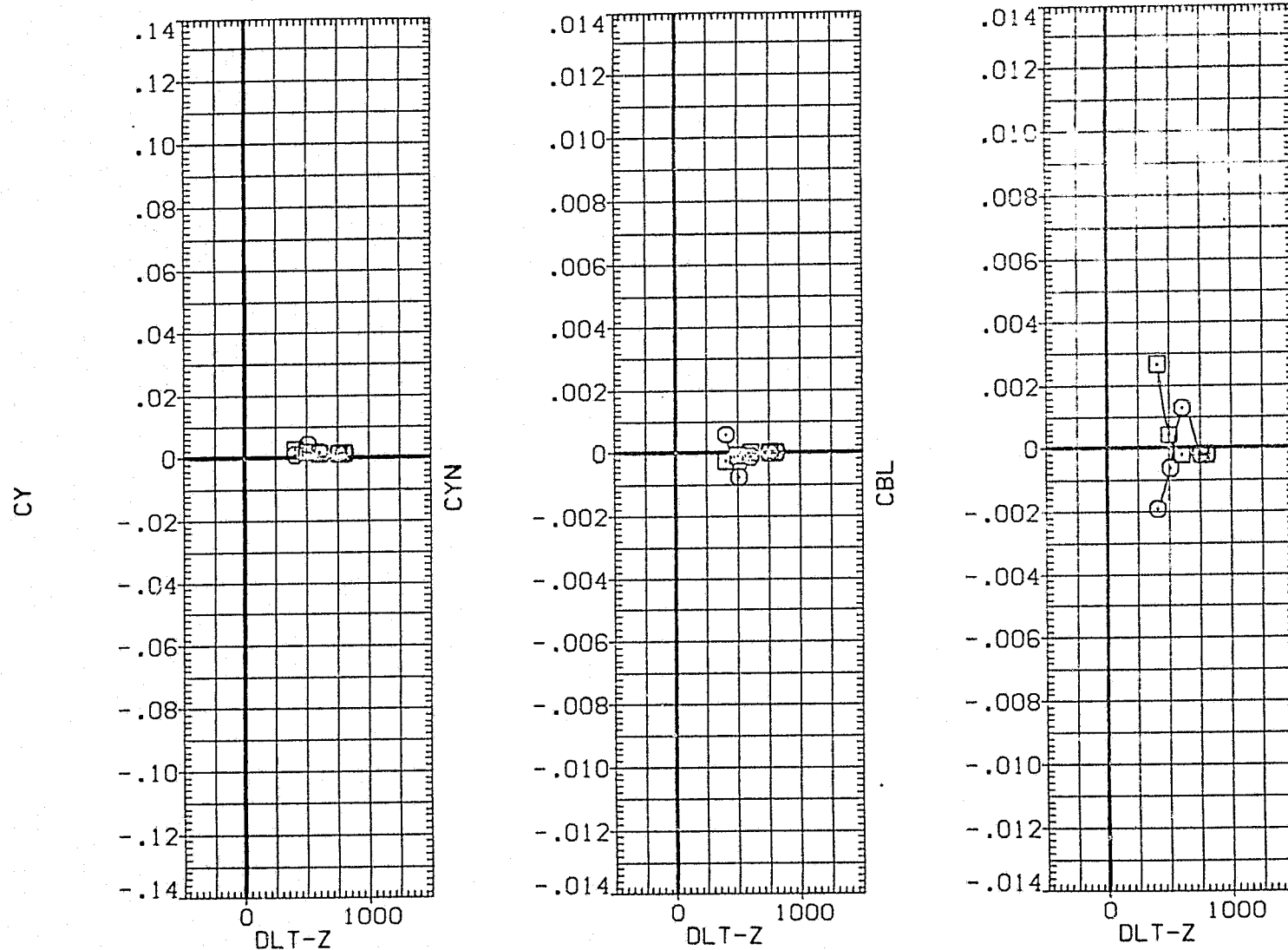


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR268)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.512	60.000	ALPHA	5.000
□	400.440	.000	DLTALF	-20.000
		3.000	MACH	5.930
		.000	ELEVON	-20.000
		12.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

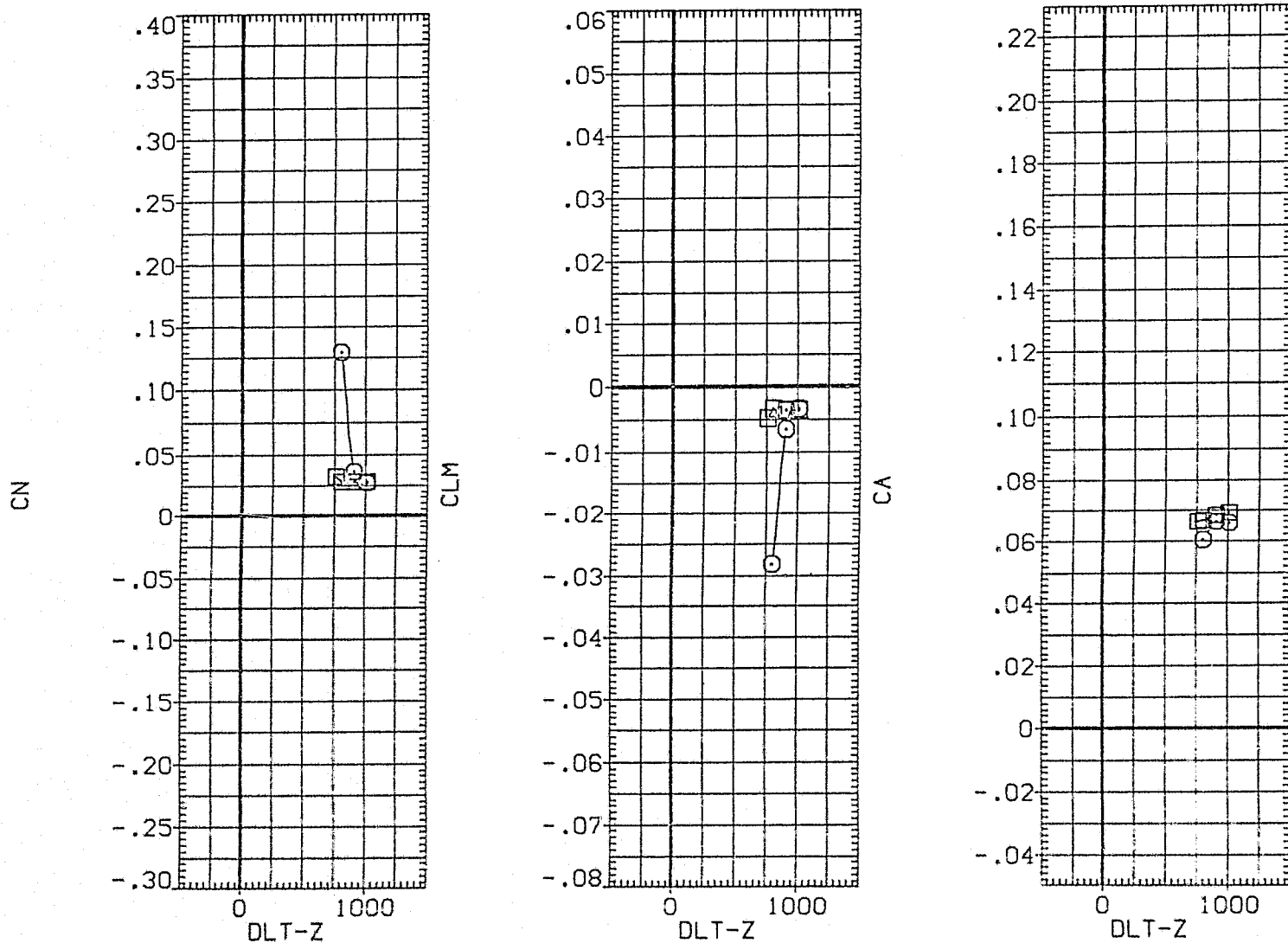


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR268)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.512	BETA	60.000	ALPHA
□	400.440	DLTBTA	.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

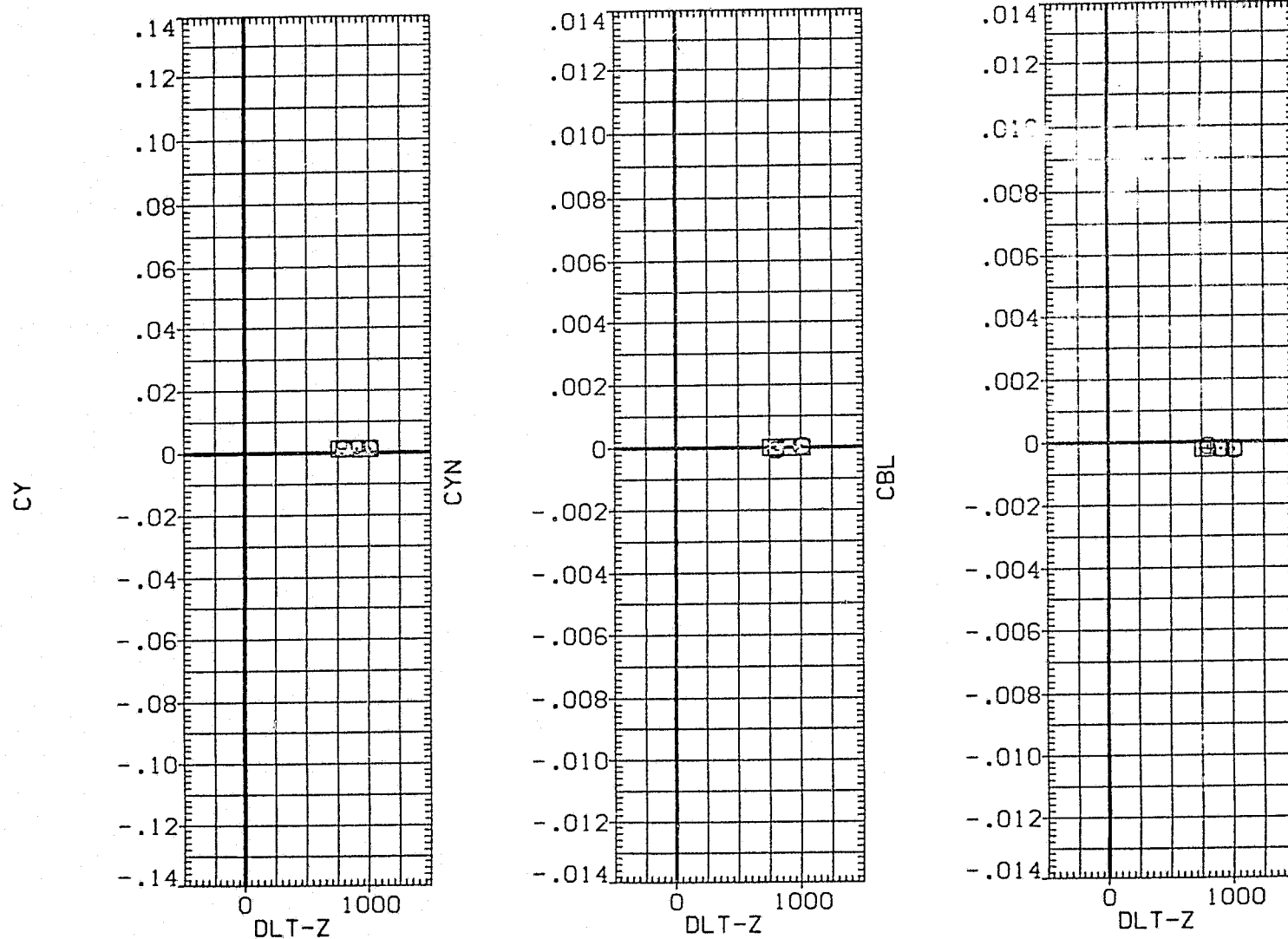


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR261)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.658	60.000	ALPHA	-5.000
□	400.450	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	-20.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

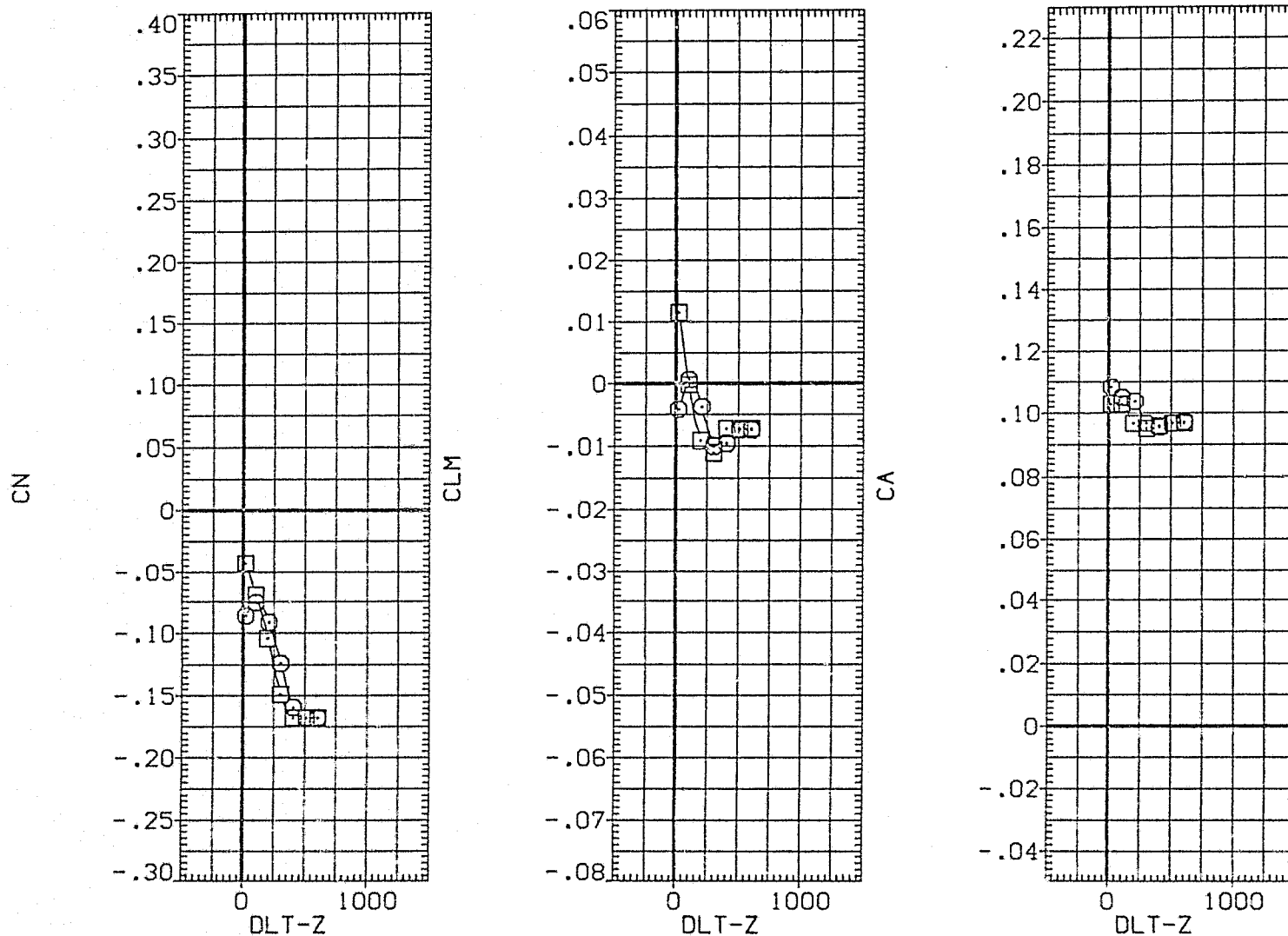


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR261)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.658	BETA	60.000	ALPHA	-5.000
□	400.450	DLTBTB	.000	DLTALF	.000
		AILRON	3.000	MACH	5.930
		GRID	.000	ELEVON	-20.000
			11.000		

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

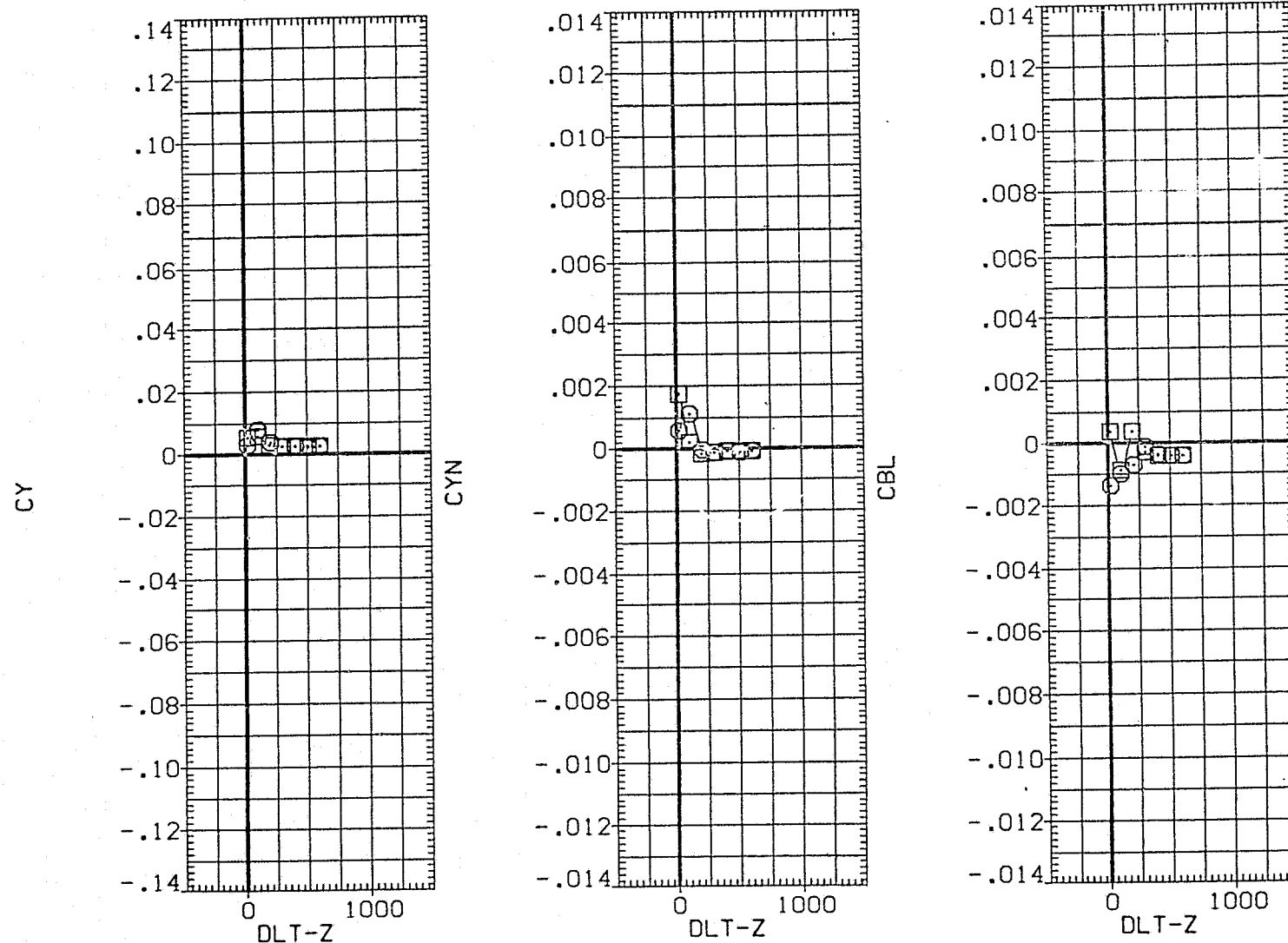


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR262)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.519		60.000	ALPHA -5.000
□	400.400	BETA .000	DLTALF -10.000	
		DLTBTA 3.000	MACH 5.930	
		AILRON .000	ELEVON -20.000	
		GRID 11.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

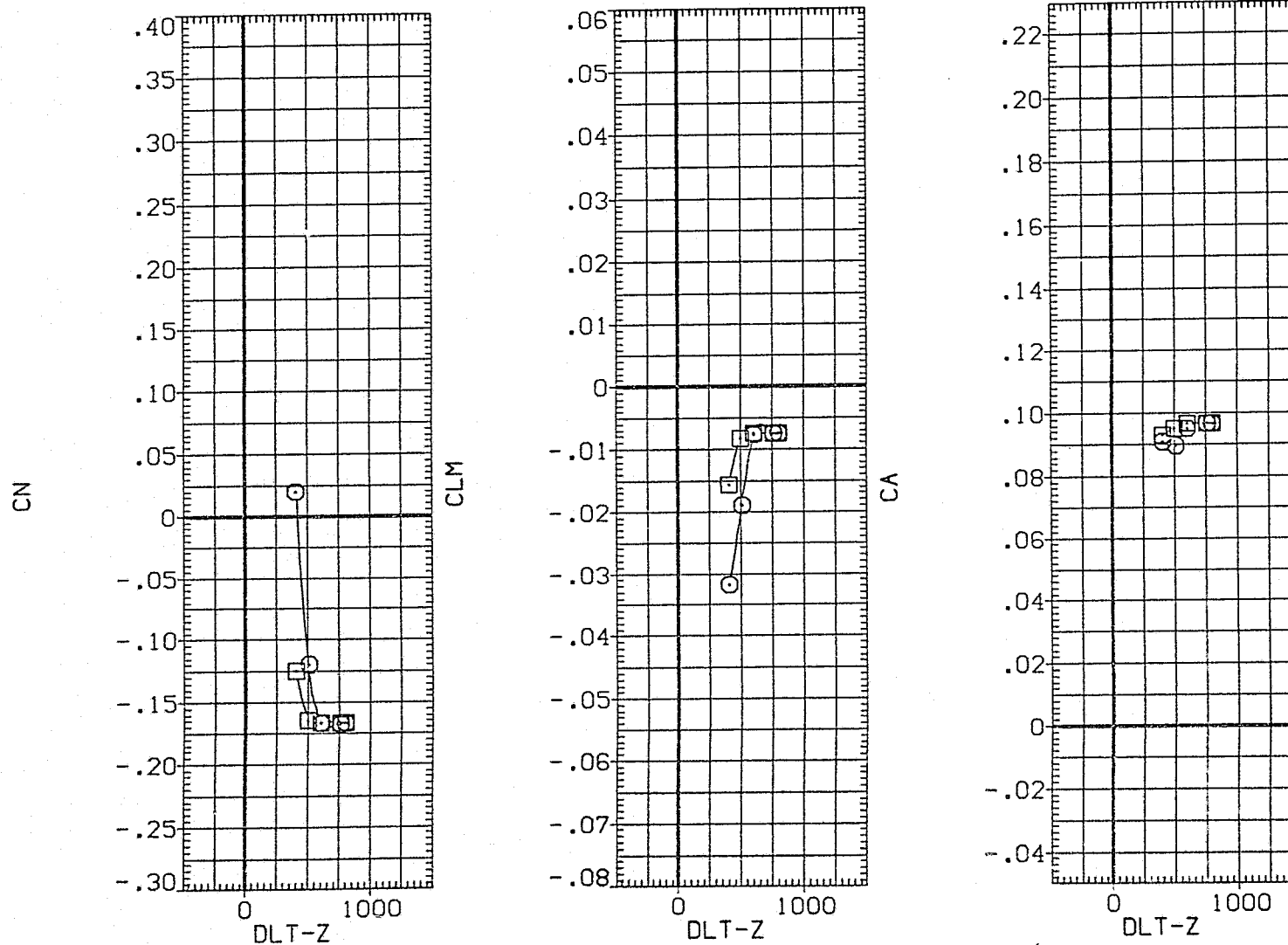


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR262)

SYMBOL	DLT-X	PARAMETRIC VALUES			
□	.519	DLT-Y	60.000	ALPHA	-5.000
□	400.400	BETA	.000	DLTALF	-10.000
		DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	-20.000
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

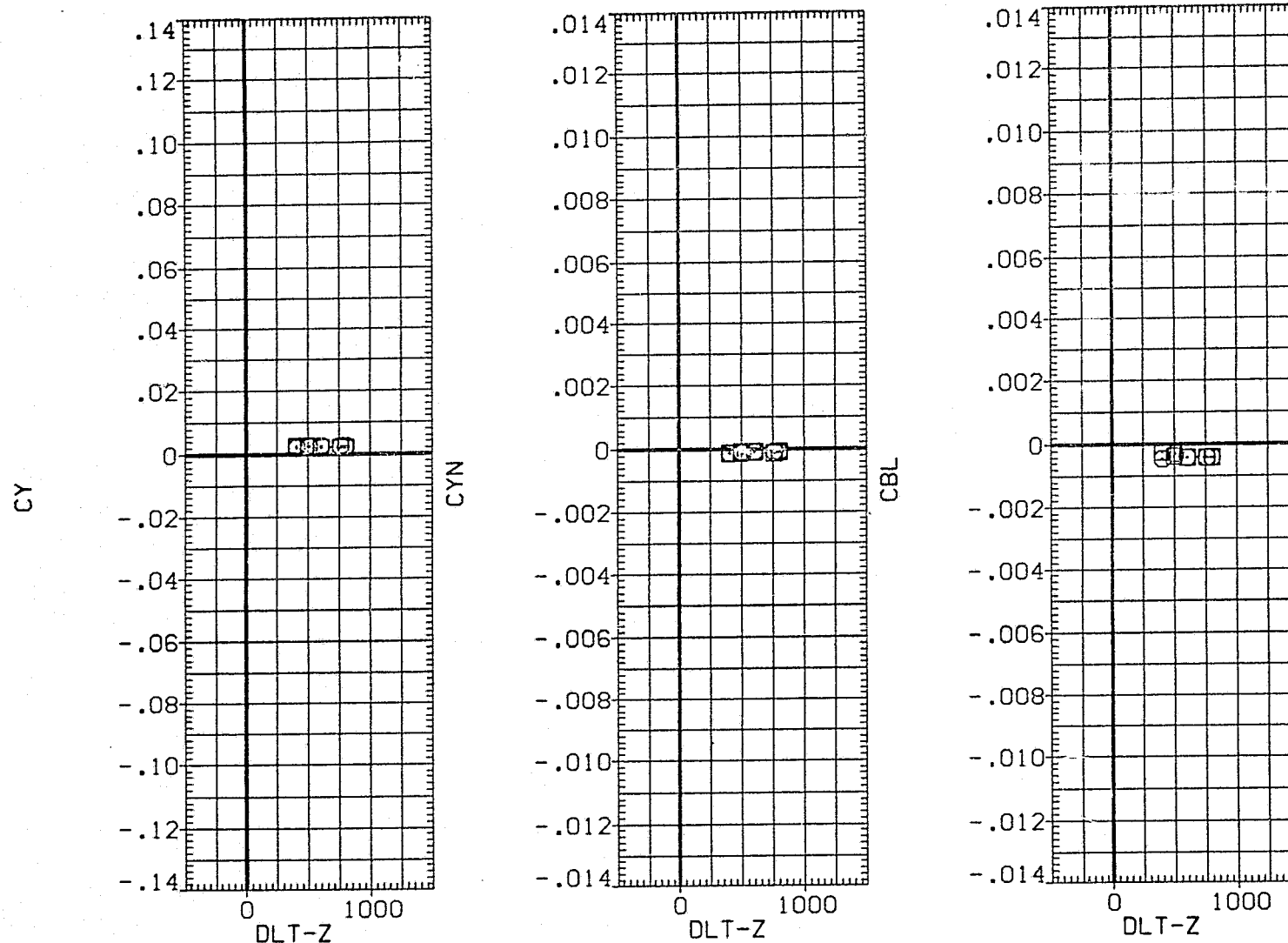


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR264)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.391	60.000	DLTALF	-5.000
□	400.530	.000	MACH	-20.000
		3.000	ELEVON	5.930
		.000		-20.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

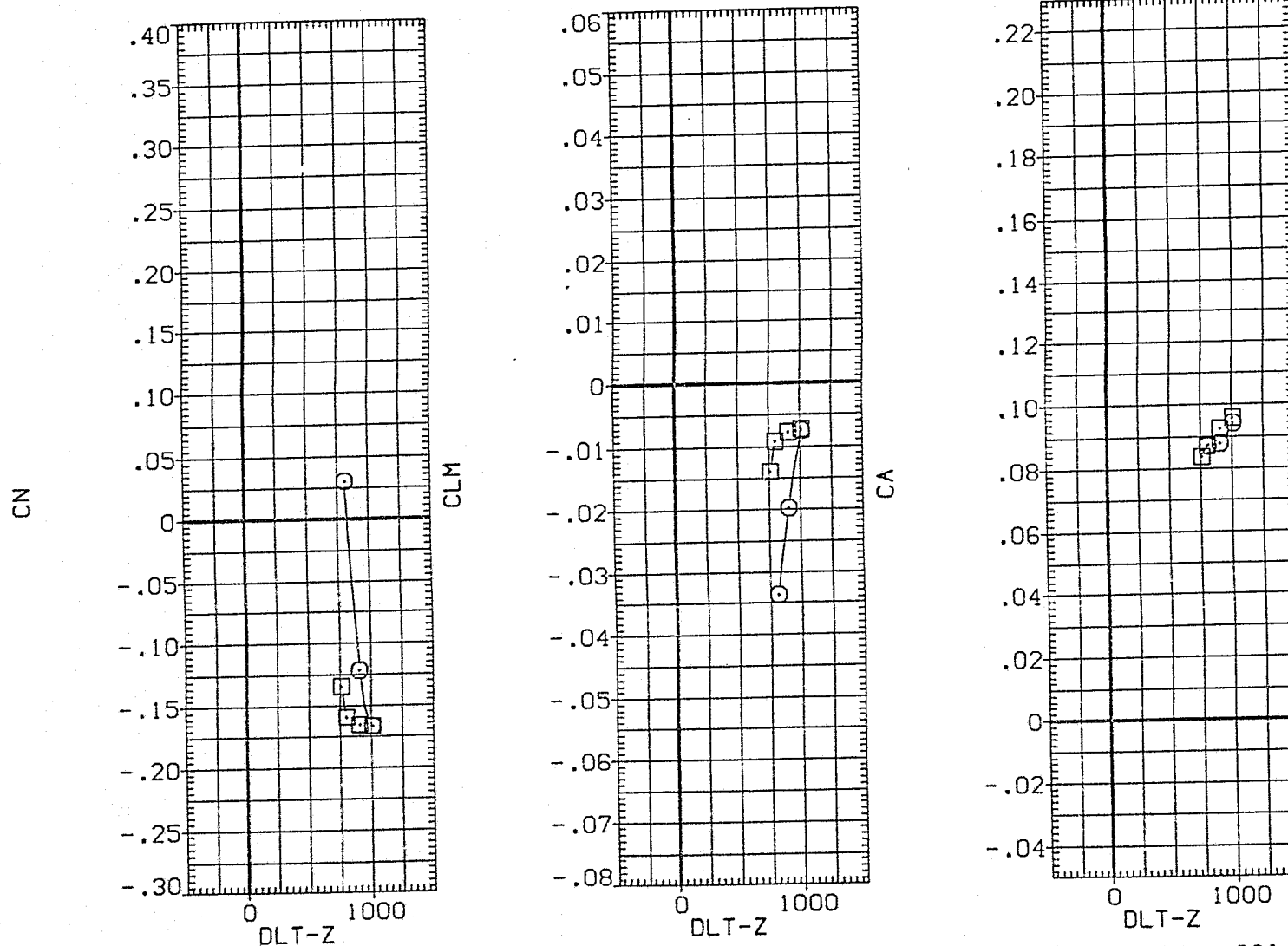


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR264)

SYMBOL

○

□

DLT-X

.391

400.530

DLT-Y

BETA

DLTBTA

AILRON

GRID

PARAMETRIC VALUES

60.000

.000

3.000

.000

11.000

ALPHA

DLTALF

MACH

ELEVON

-5.000

-20.000

5.930

-20.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRF 1089.6000 IN. X0

YMRP .0000 IN. Y0

ZMRP 375.0000 IN. Z0

SCALE .0100

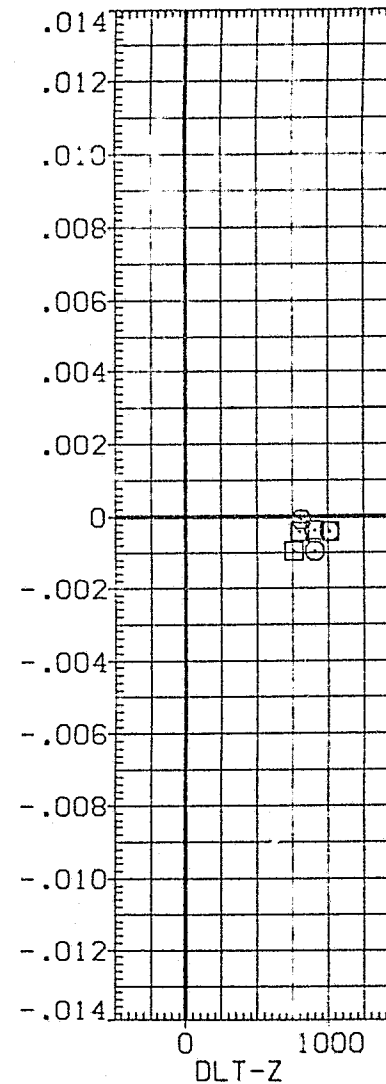
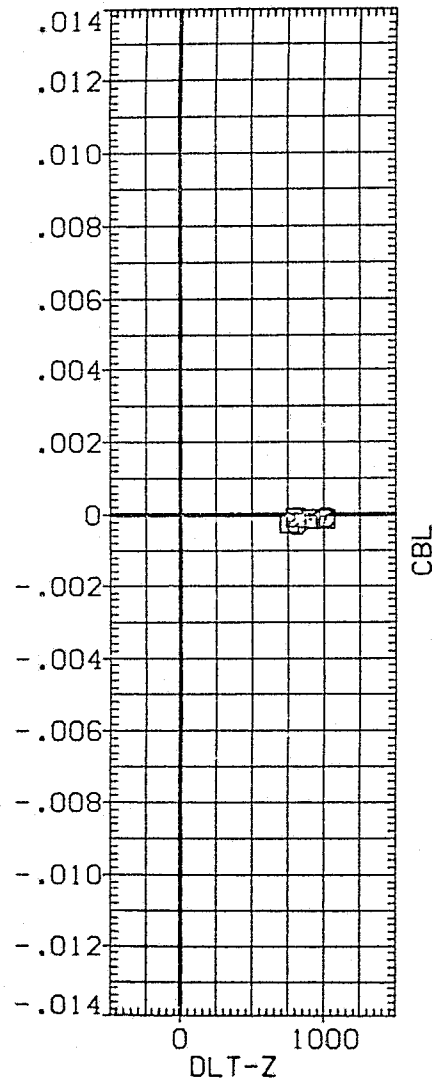
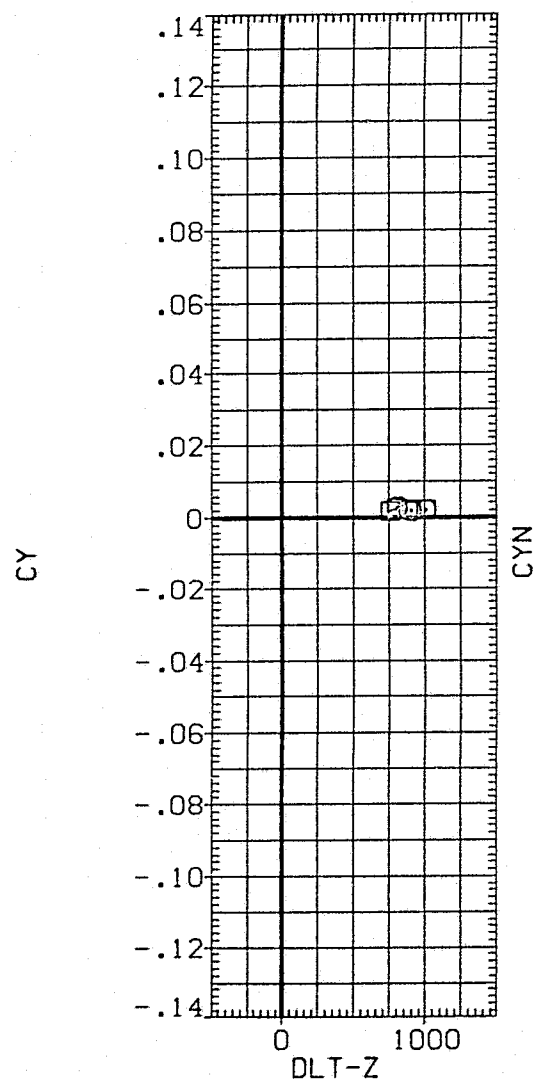


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR259)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.410	60.000	DLTALF	-10.000
□	400.440	.000	BETA	.000
		3.000	MACH	5.930
		.000	ELEVON	-20.000
		10.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

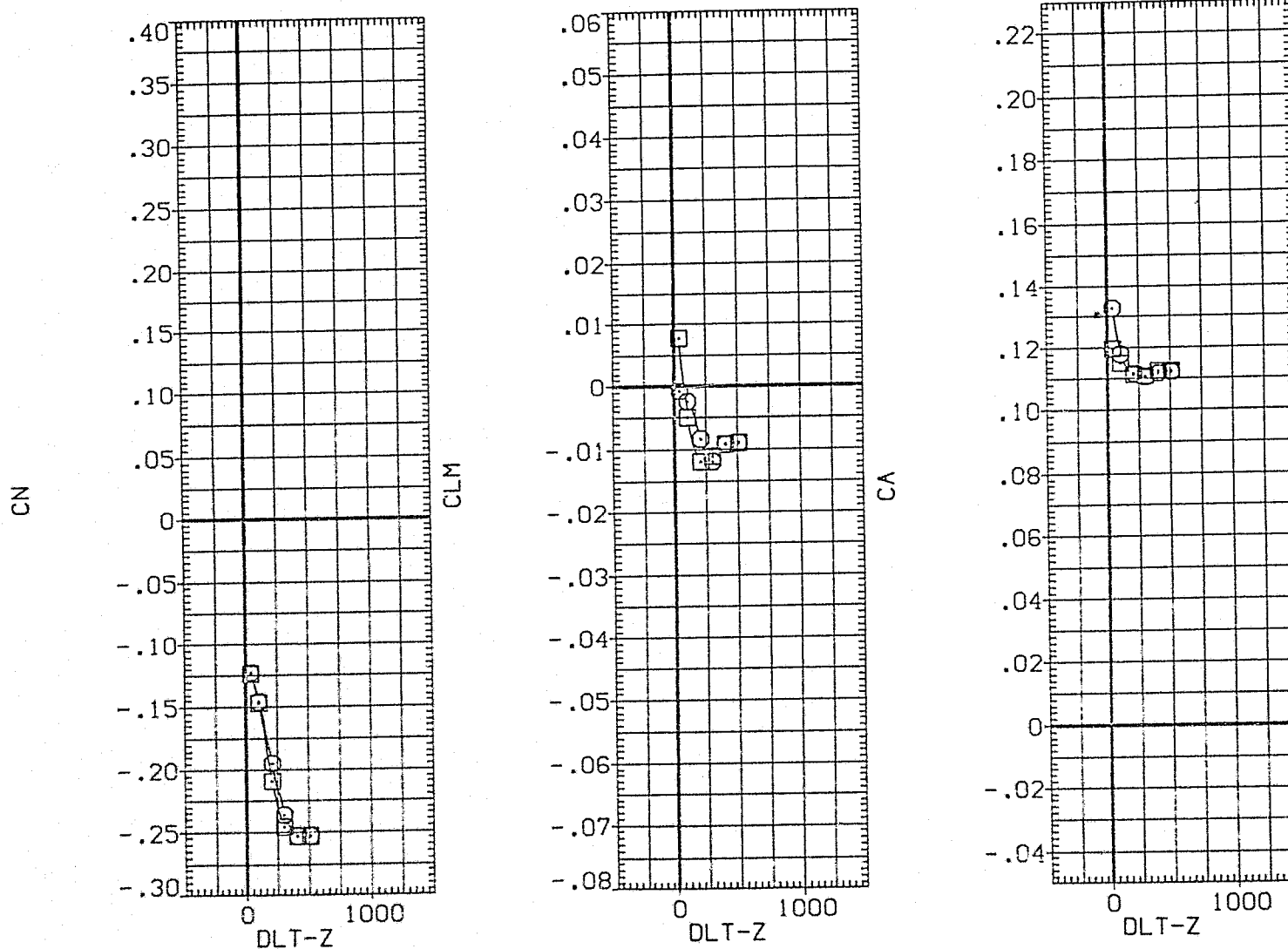


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR259)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.410	BETA	60.000	ALPHA -10.000
□	400.440	DLTBT	.000	DLTALF .000
		AILRON	3.000	MACH 5.930
		GRID	.000	ELEVON -20.000
			10.000	

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1759.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

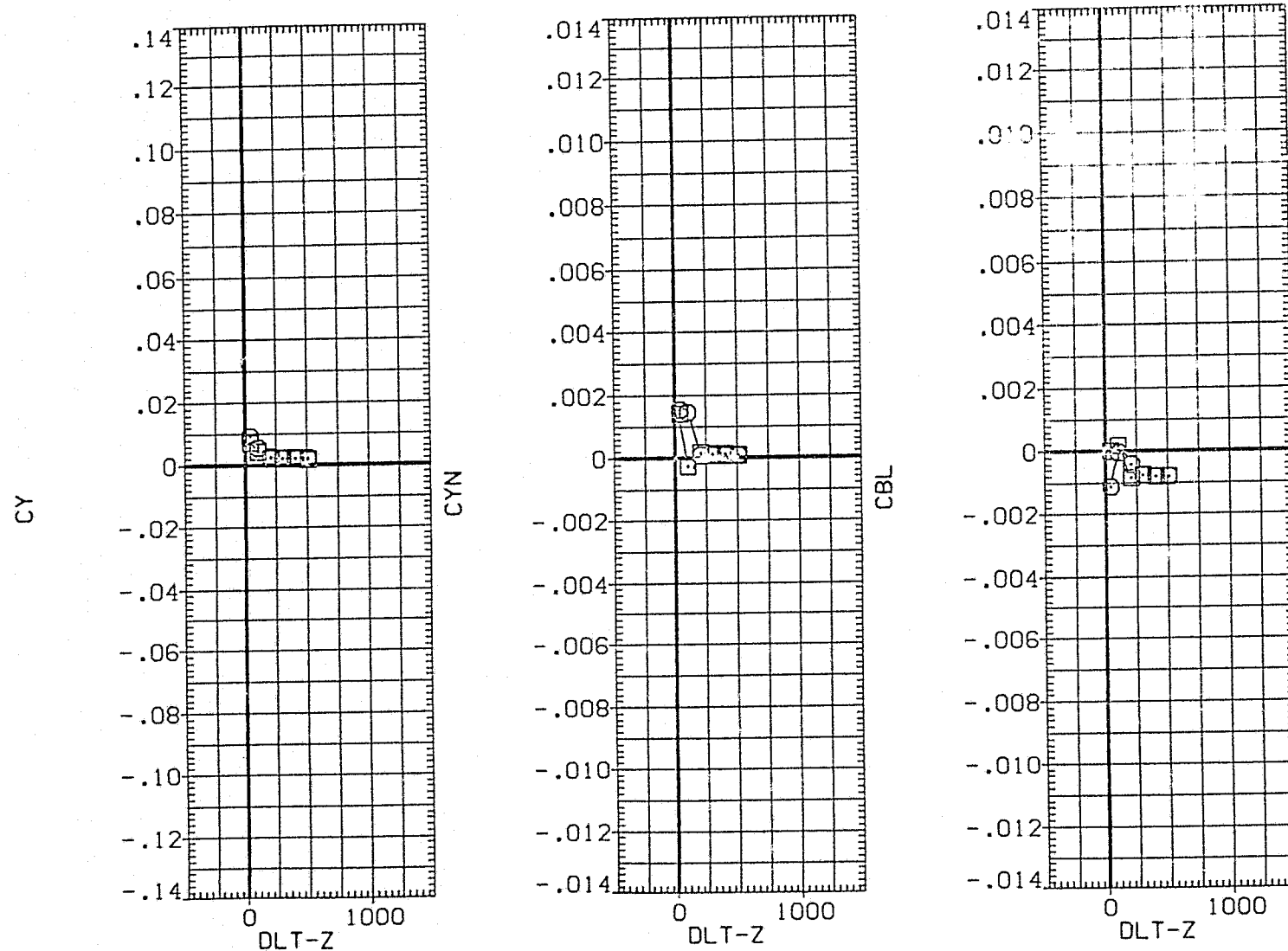


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR260)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.432	60.000	DLTALF	-10.000	
□	400.410	.000	MACH	5.930	
		3.000	ELEVON	-20.000	
		.000			
		10.000			

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

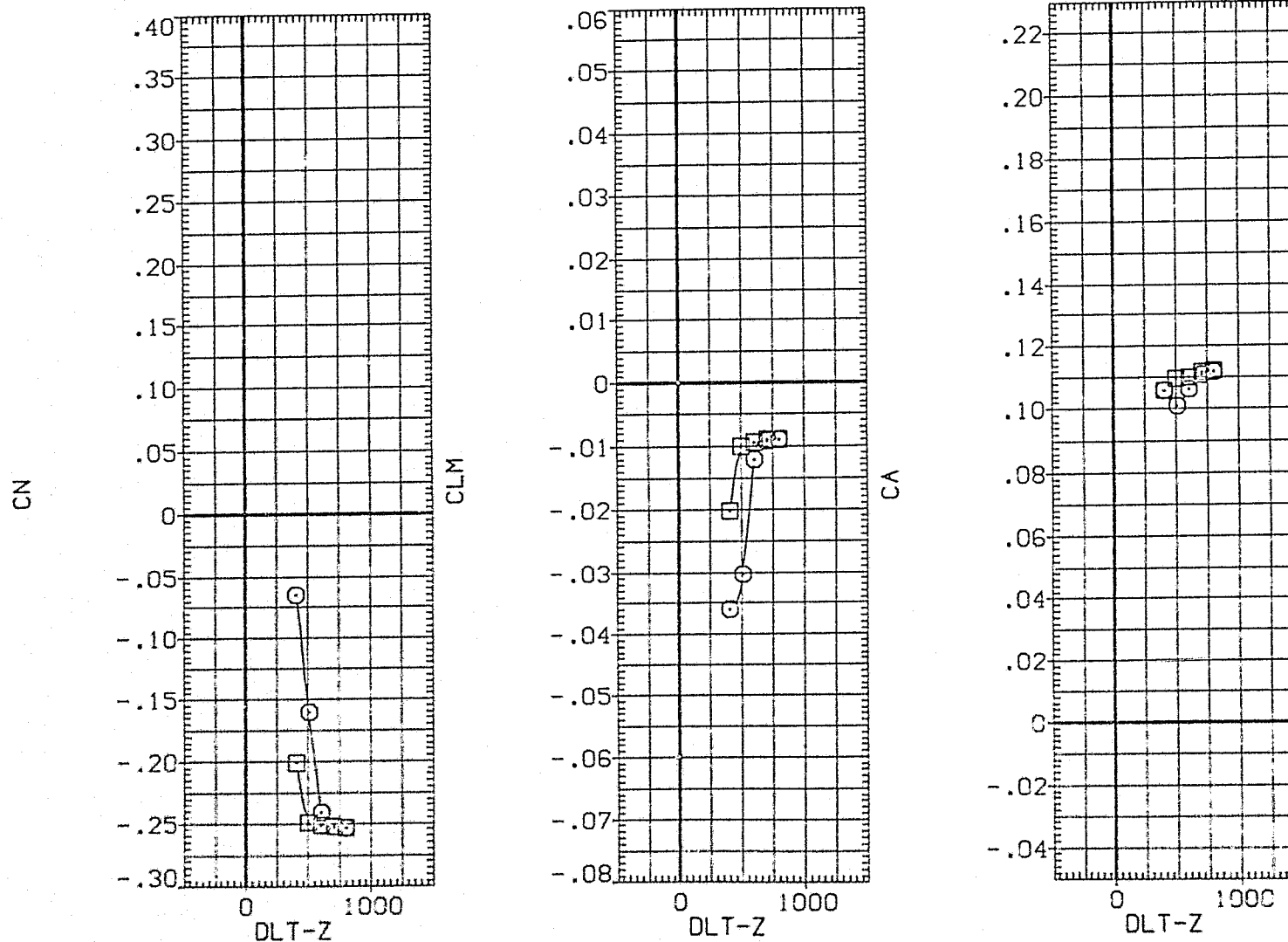


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR260)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.432	60.000	ALPHA -10.000
□	400.410	.000	DLTALF -10.000
		3.000	MACH 5.930
		.000	ELEVON -20.000
		10.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 N.
BREF	1290.3000 N.
XMRP	1099.6000 N. X0
YMRP	.0000 N. Y0
ZMRP	375.0000 N. Z0
SCALE	.0100

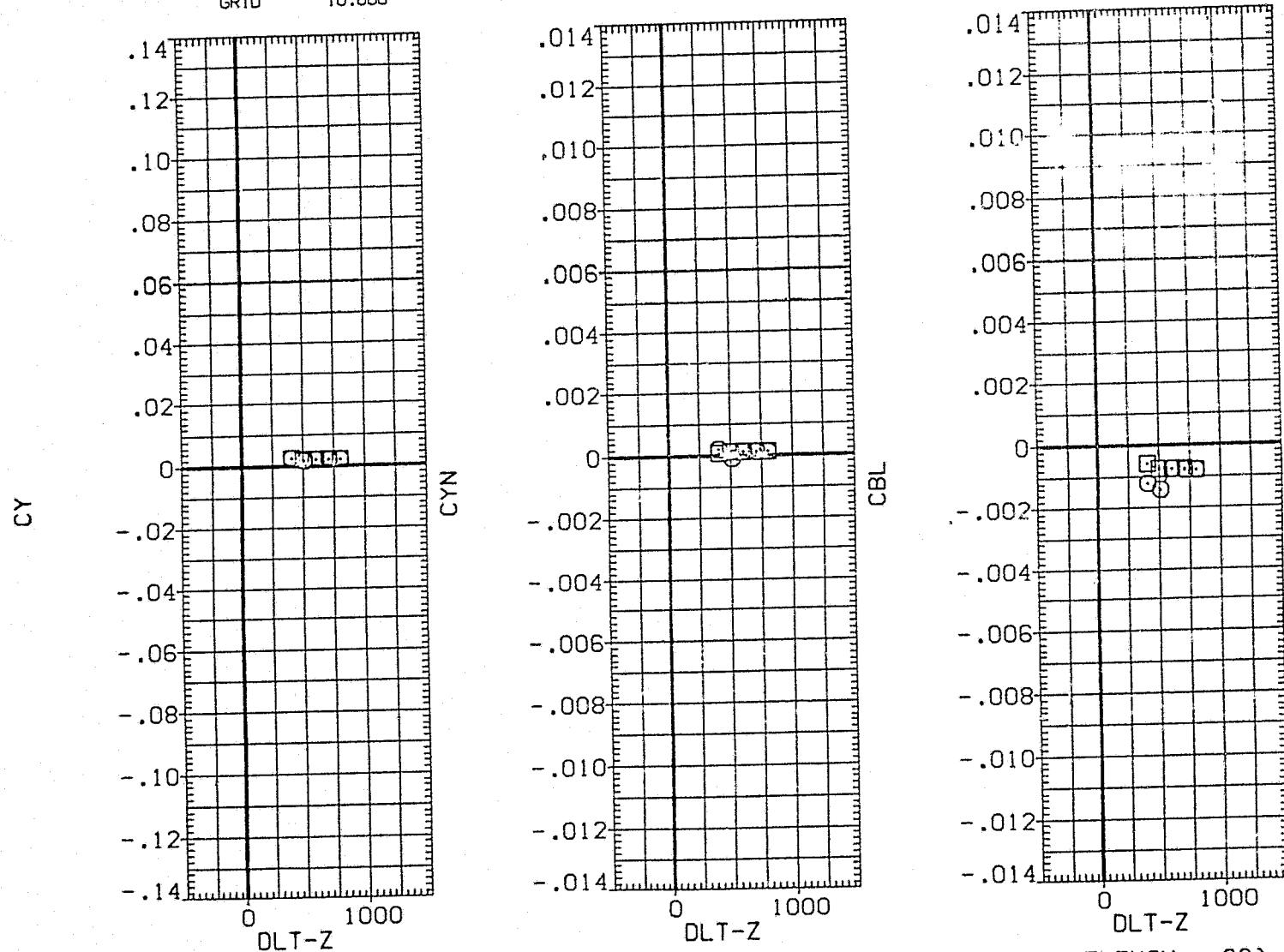


FIGURE 15 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -20)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR279)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.468	60.000	ALPHA	.000
□	400.470	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	-40.000
		13.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

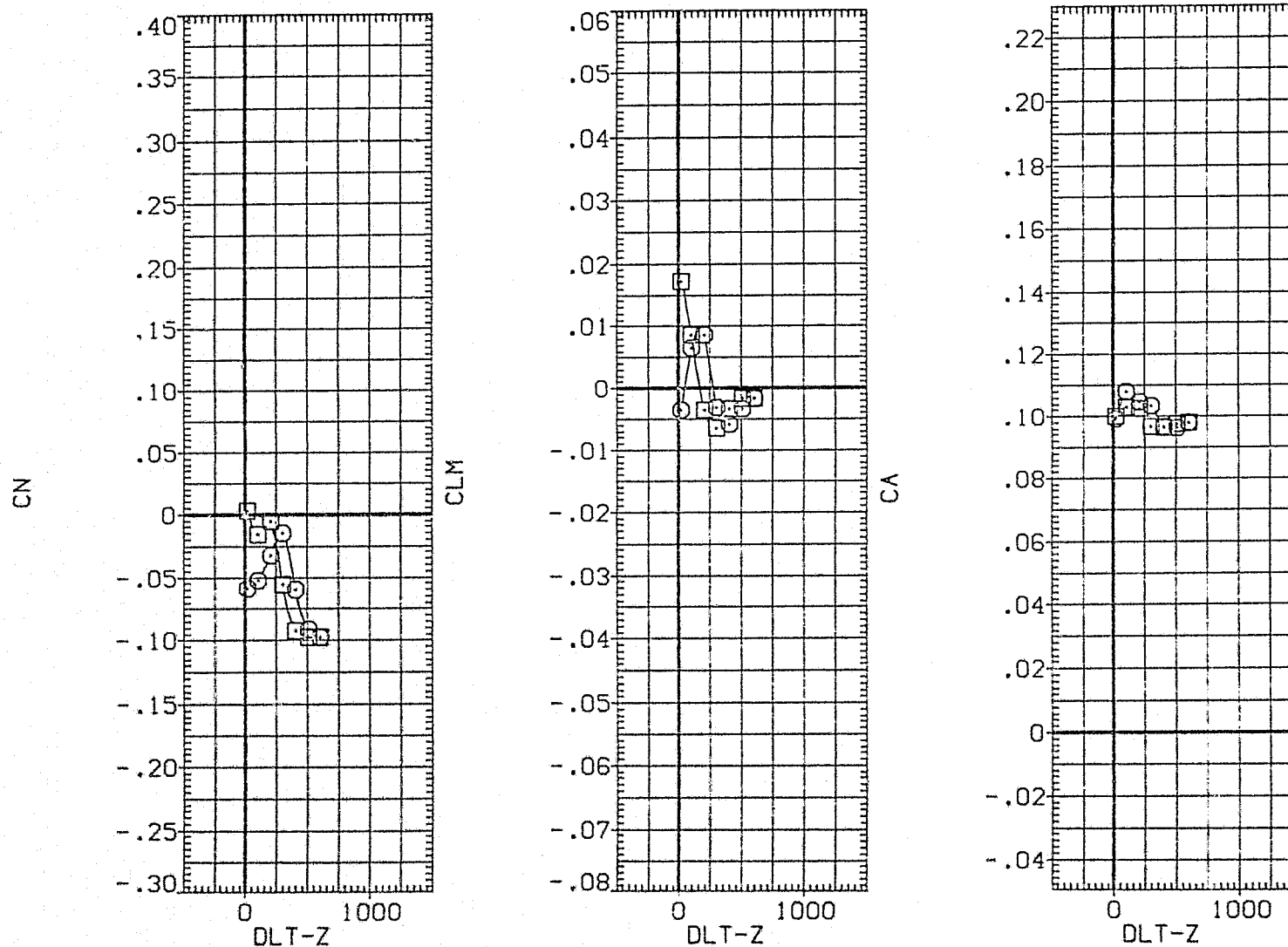


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR279)

SYMBOL



DLT-X

.468
400.470

DLT-Y

BETA

DLTBTA

AILRON

GRID

PARAMETRIC VALUES

60.000

.000

3.000

.000

13.000

ALPHA

DLTALF

MACH

ELEVON

.000

.000

5.930

-40.000

REFERENCE INFORMATION

SREF	2690.000	SQ.FT.
LREF	1290.300	IN.
BREF	1290.300	IN.
XMRP	1089.600	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.000	IN. Z0
SCALE	.0100	

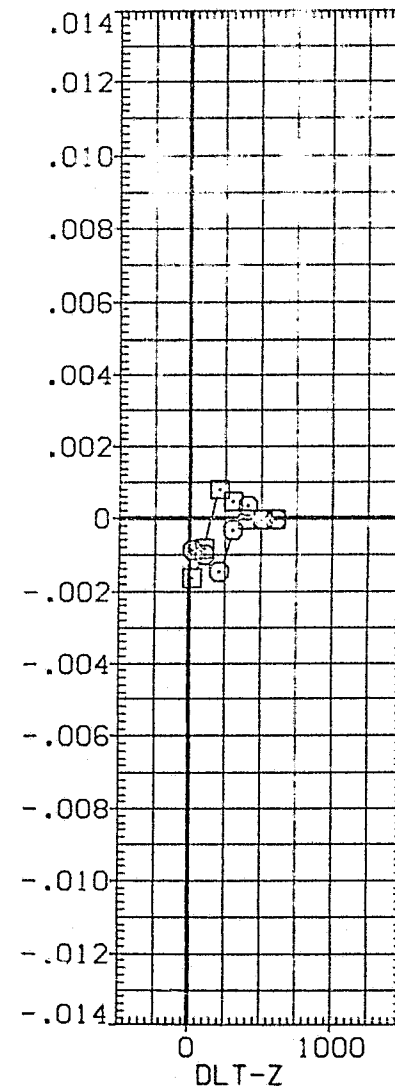
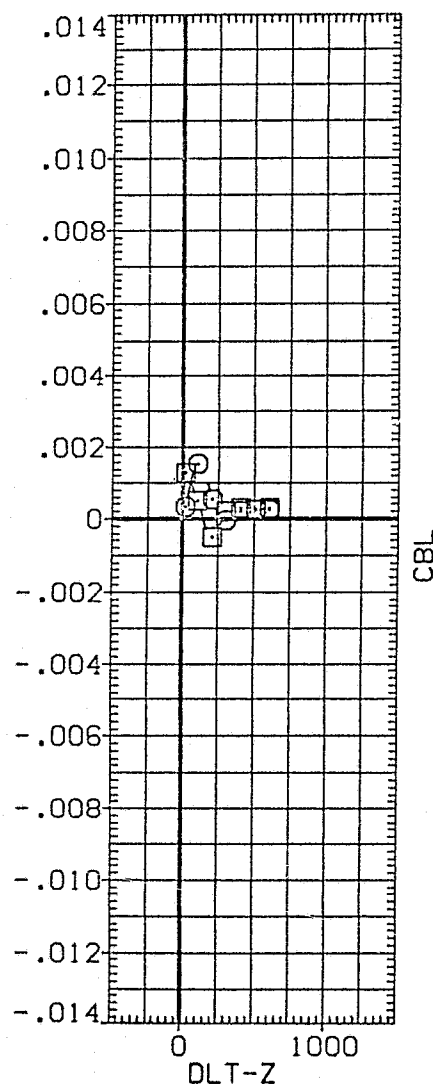
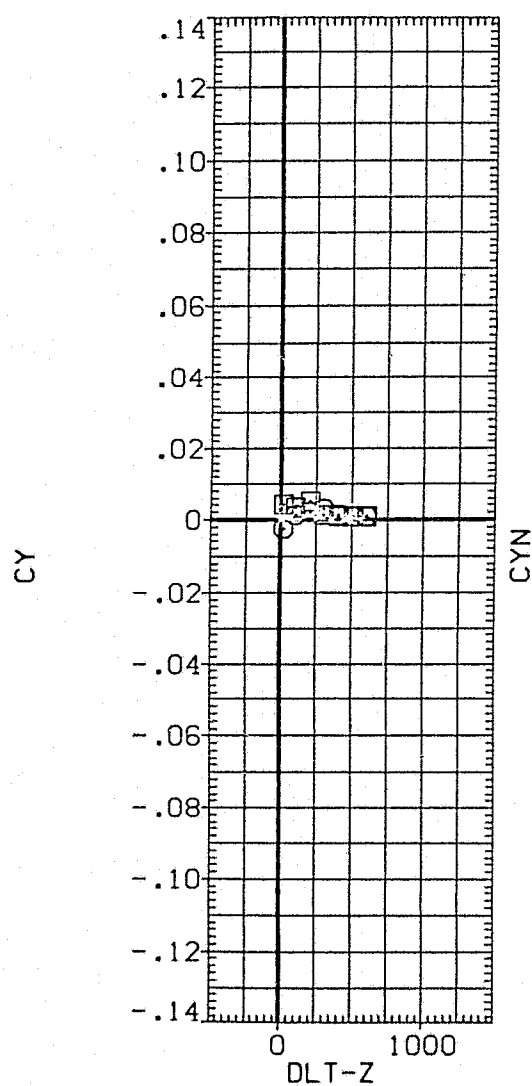


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR280)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.439	60.000		.000
□	400.350	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	-40.000
		13.000		

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

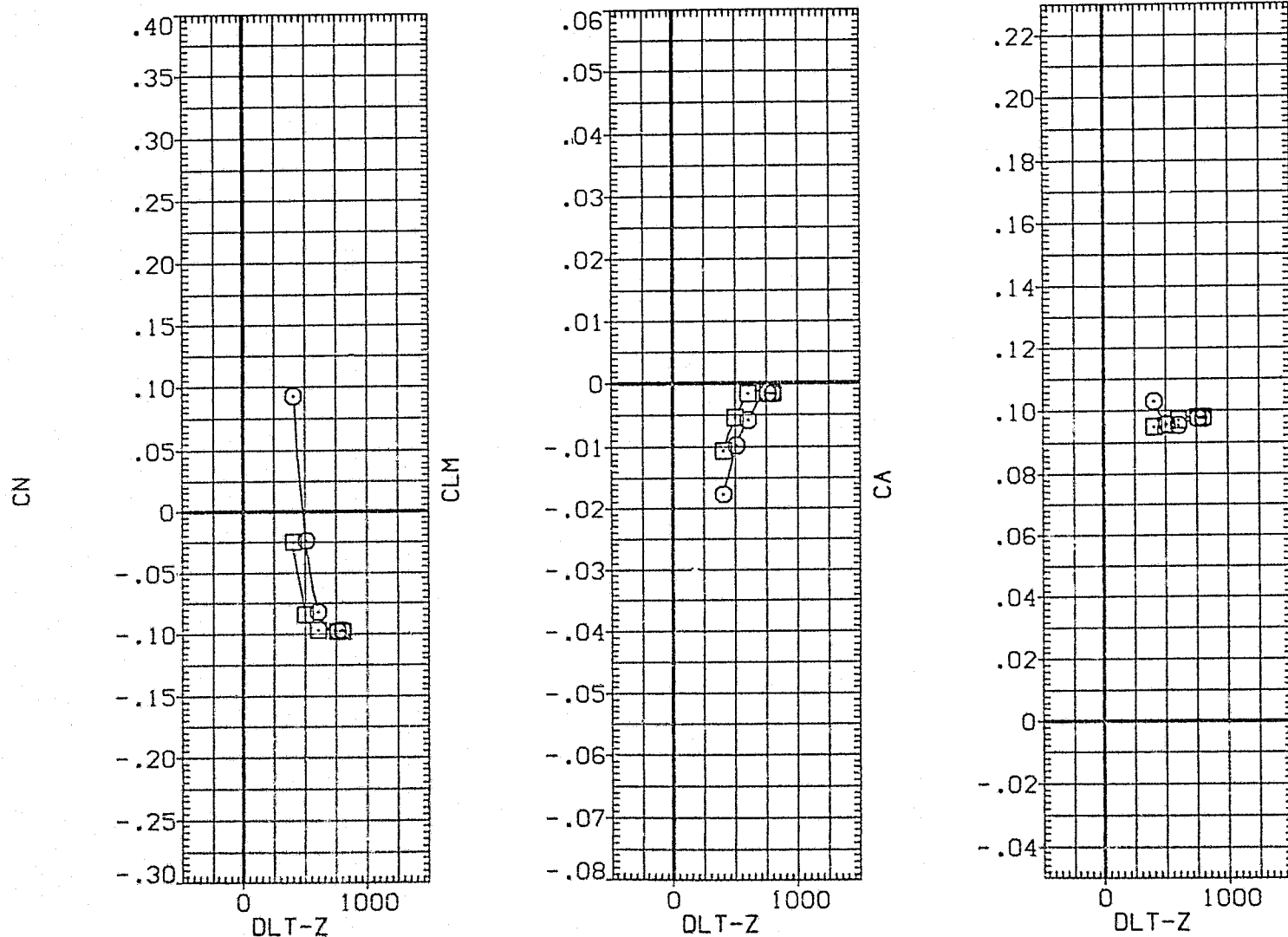


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR280)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.439	60.000	BETA	.000	DLTALF
□	400.350	3.000	DLTBTA	5.930	MACH
		.000	ATTIRON	-40.000	ELEVON
		13.000	GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

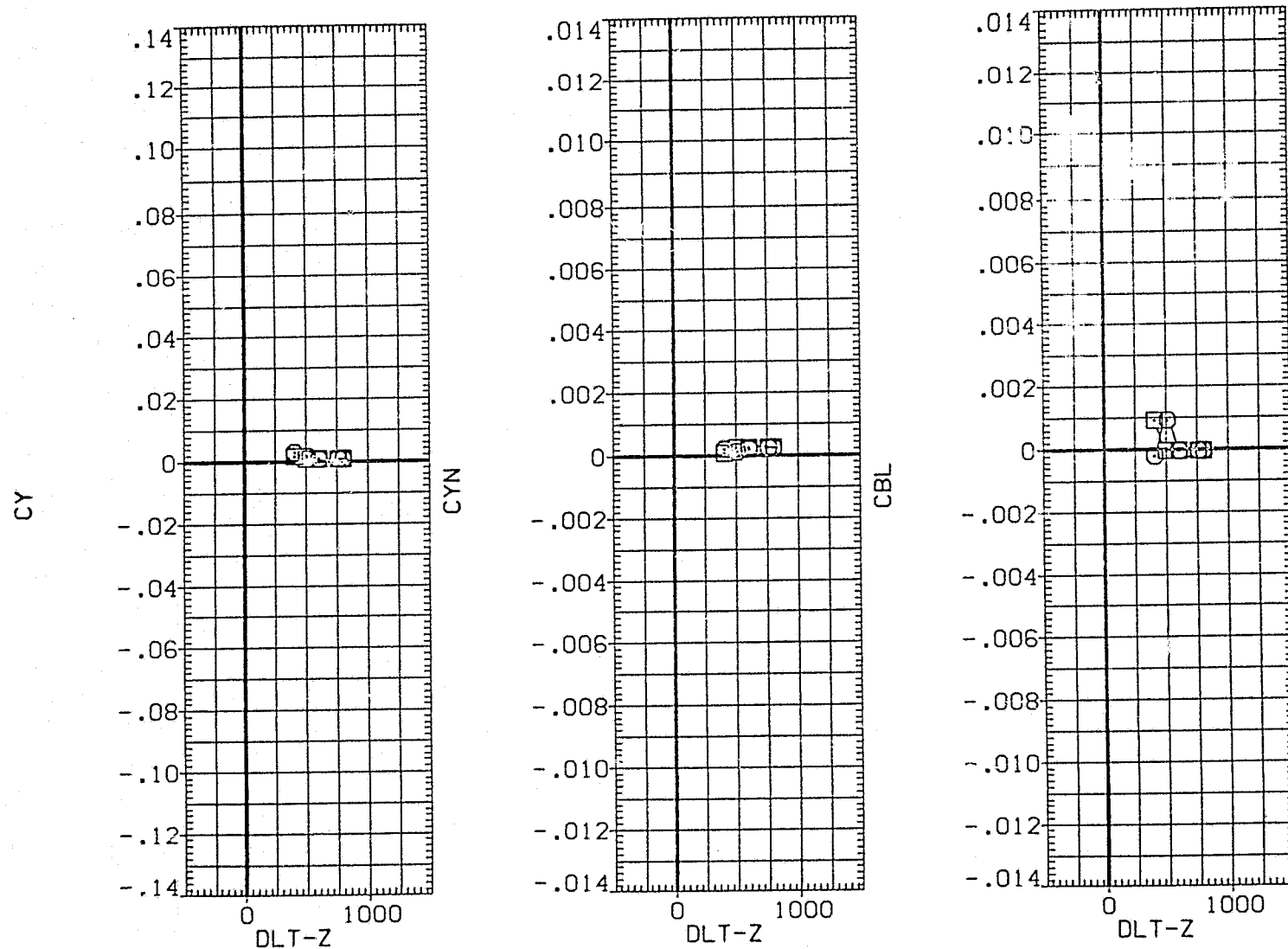


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR282)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.473	BETA	60.000	ALPHA .000
□	400.400	BETA	.000	DLTALF -20.000
		DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON -40.000
		GRID	13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

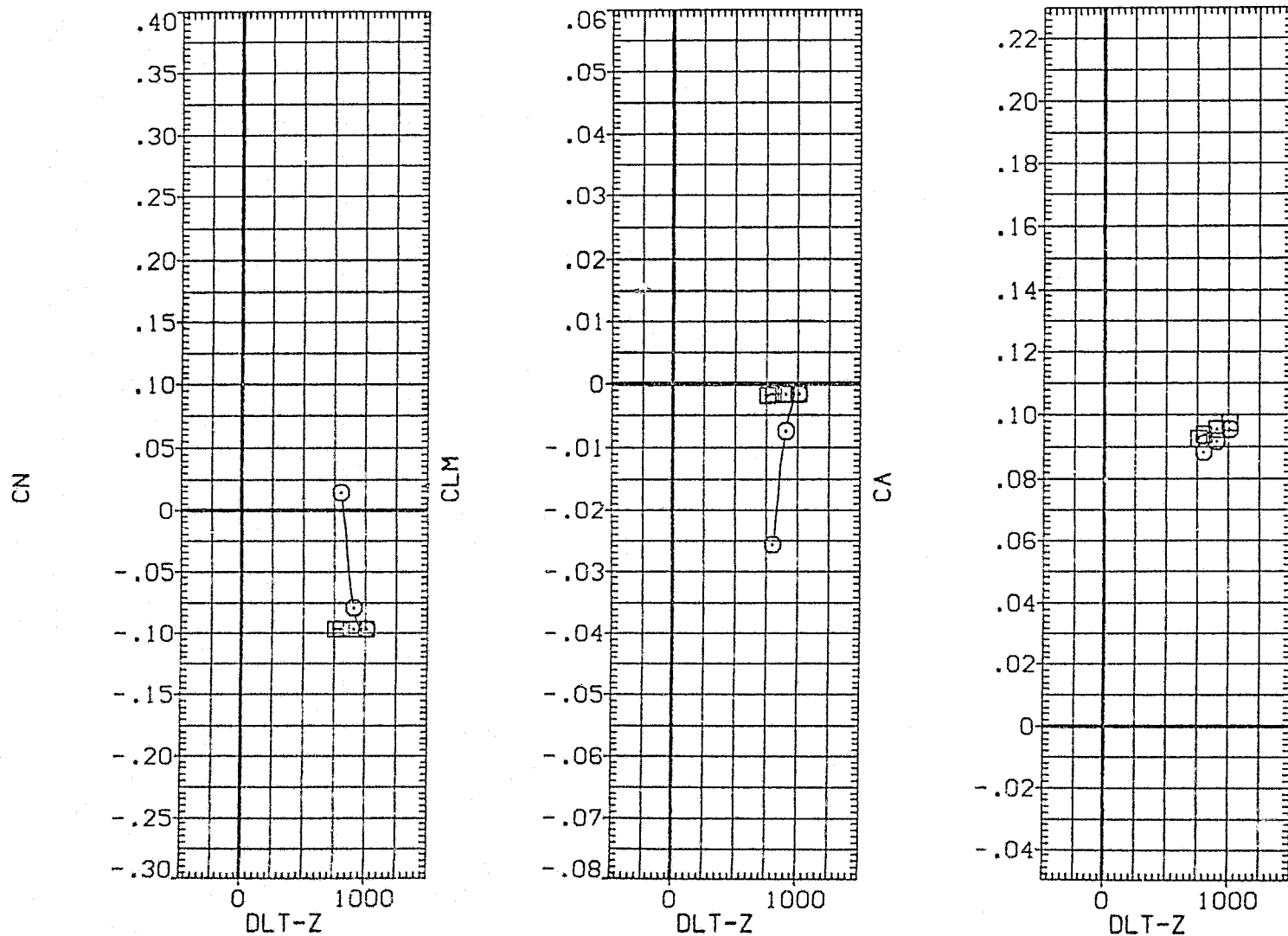


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR282)

SYMBOL ○ □	DLT-X	.473	DLT-Y	60.000	ALPHA	.000
		400.400	BETA	.000	DLTALF	-20.000
			DLTBTA	3.000	MACH	5.930
			AILRON	.000	ELEVON	-40.000
			GRID	13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

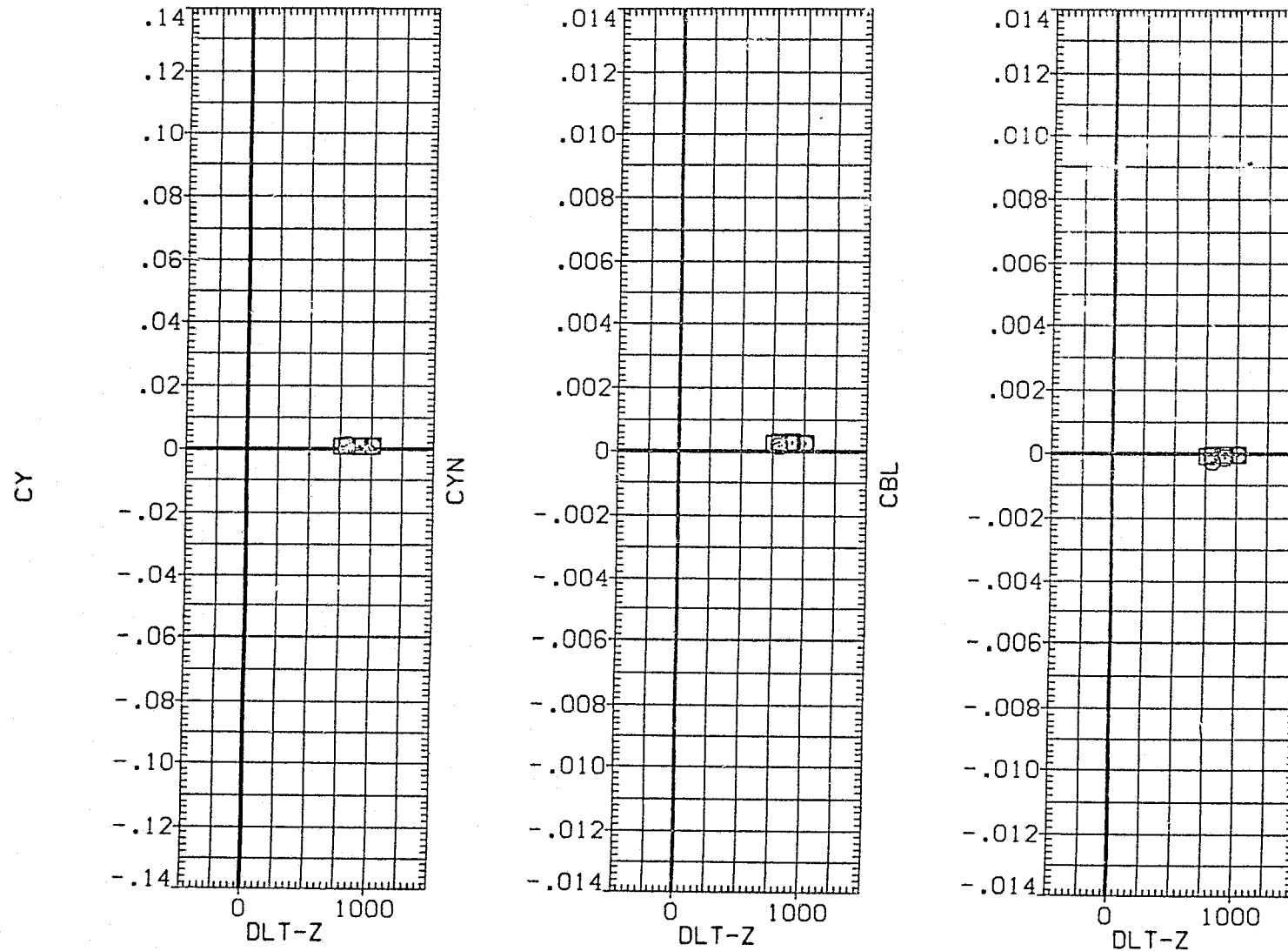


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR277)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
O	.411	BETA	60.000	ALPHA .000
		DLTBT	3.000	DLTALF -10.000
		AILRON	3.000	MACH 5.930
		GRID	.000	ELEVON -40.000
			14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

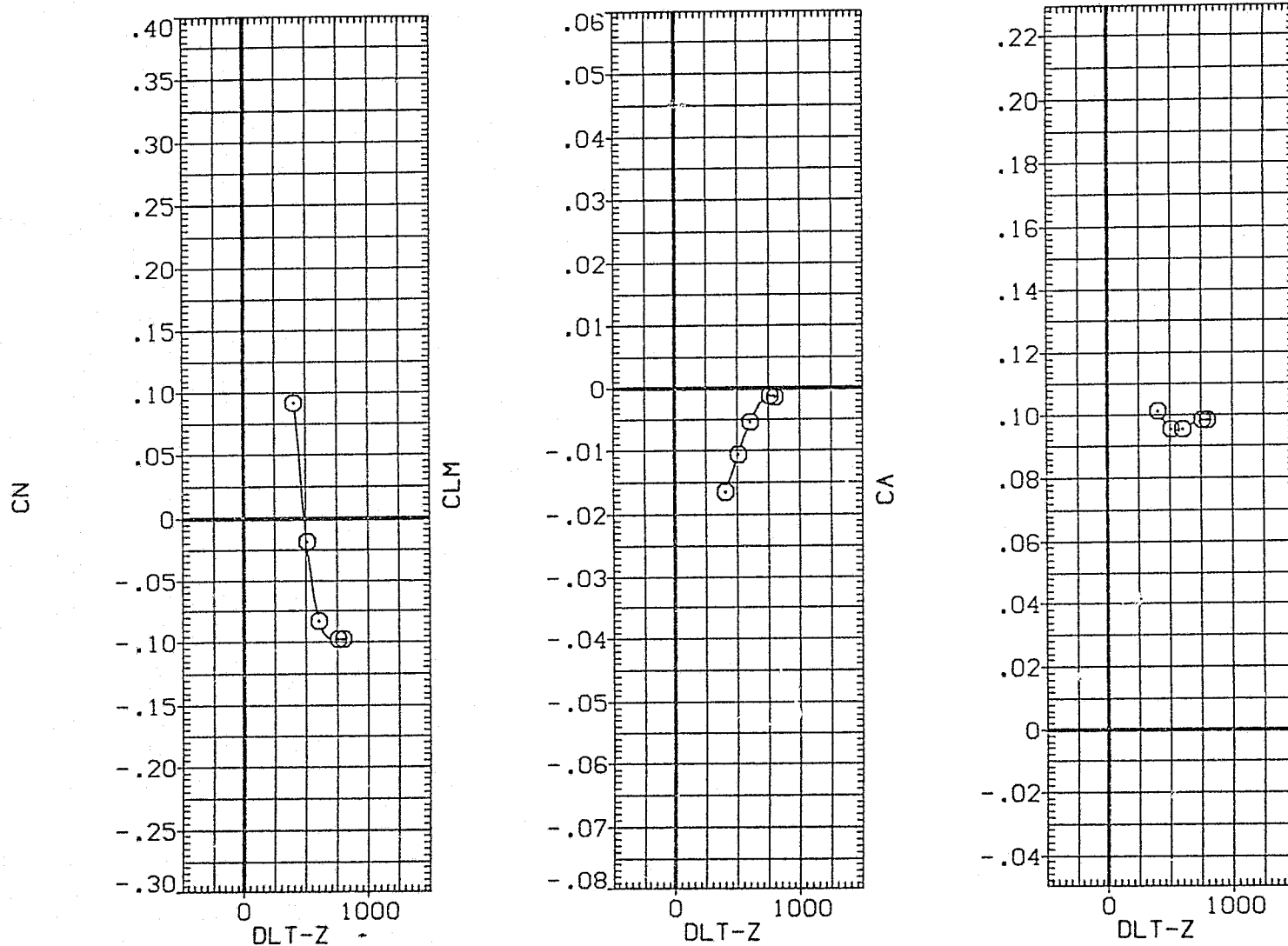


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR277)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.411	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-10.000
		DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	-40.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

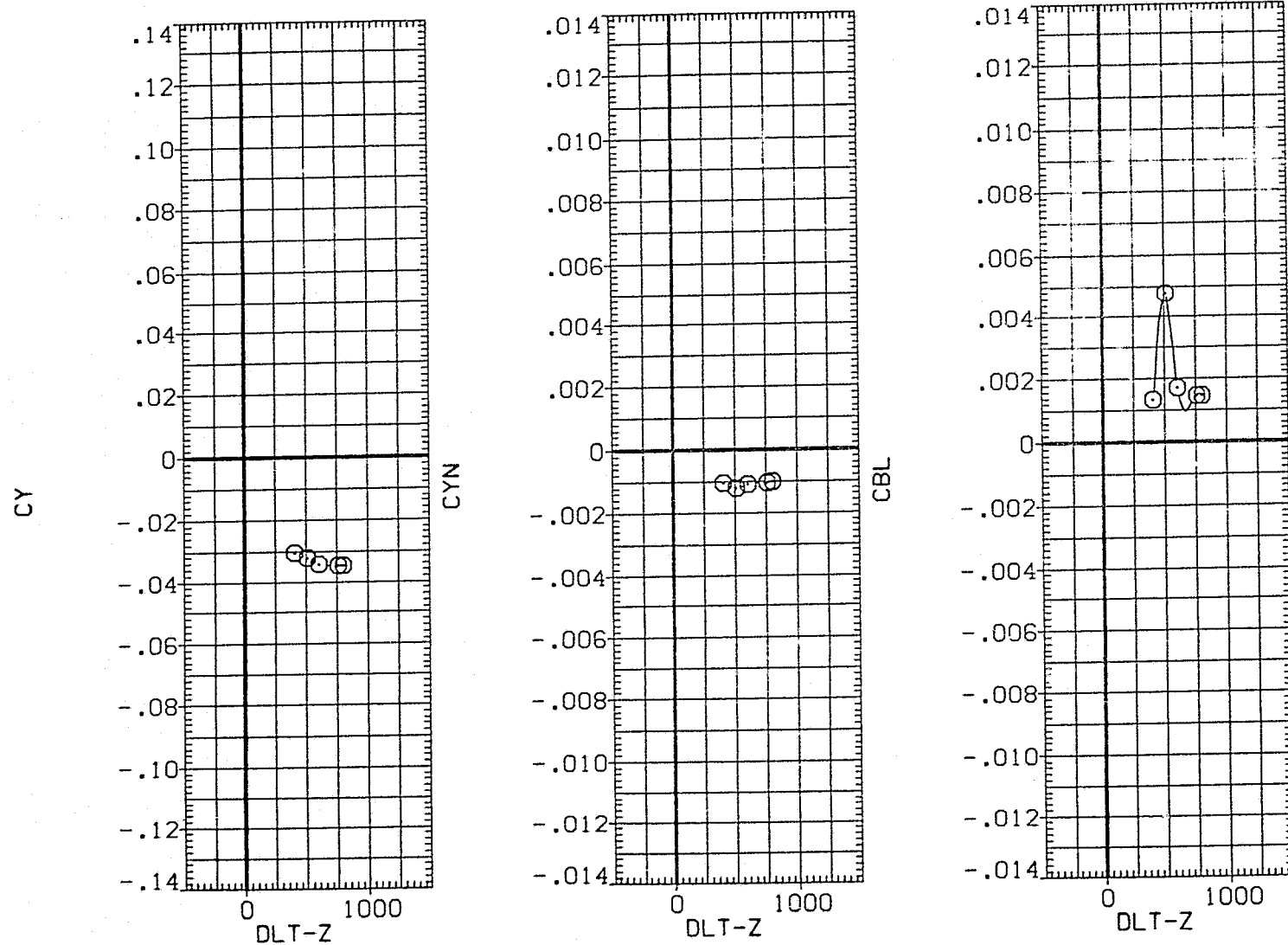


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR278)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.494	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-20.000
		DLTBTA	3.000	MACH	5.930
		AIRLON	.000	ELEVON	-40.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

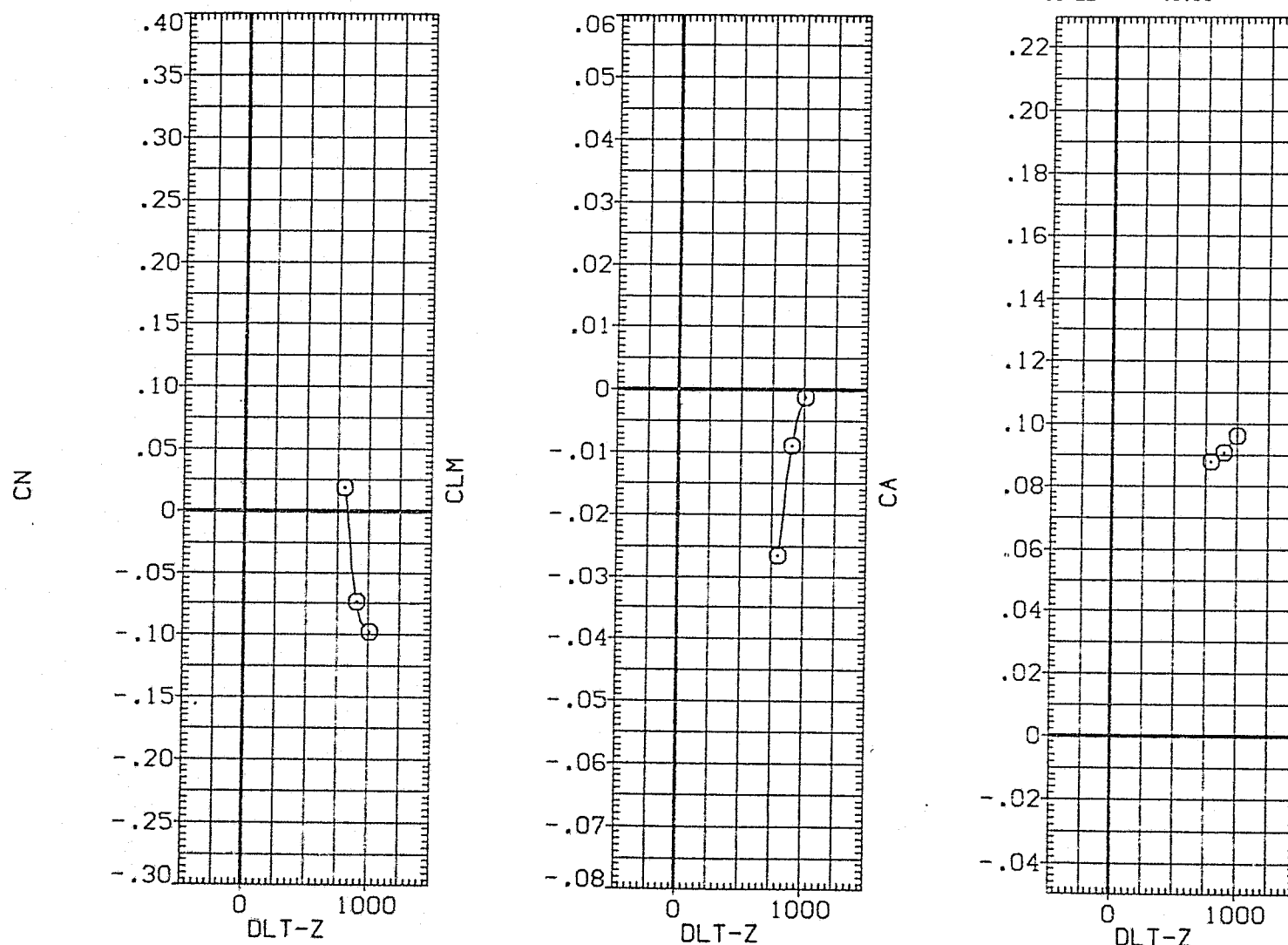


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AE0C VA422(IA17) 0RB AND ET SEPARATING(0RB DATA)(RTR278)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.494	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-20.000
		DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	-40.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.0000	IN.
BREF	1290.0000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

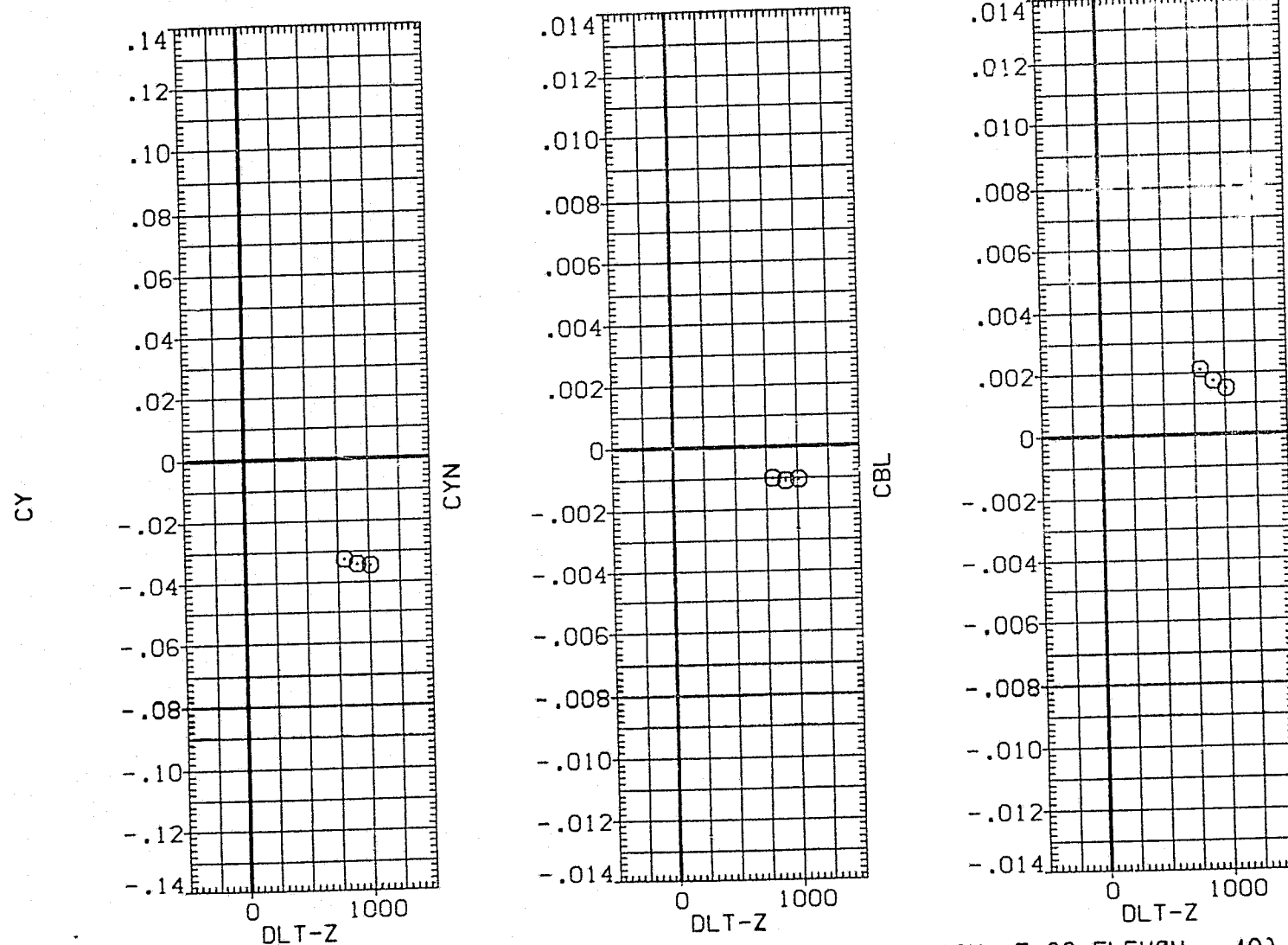


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR287)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.486	60.000	ALPHA	-5.000
□	400.510	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	-40.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

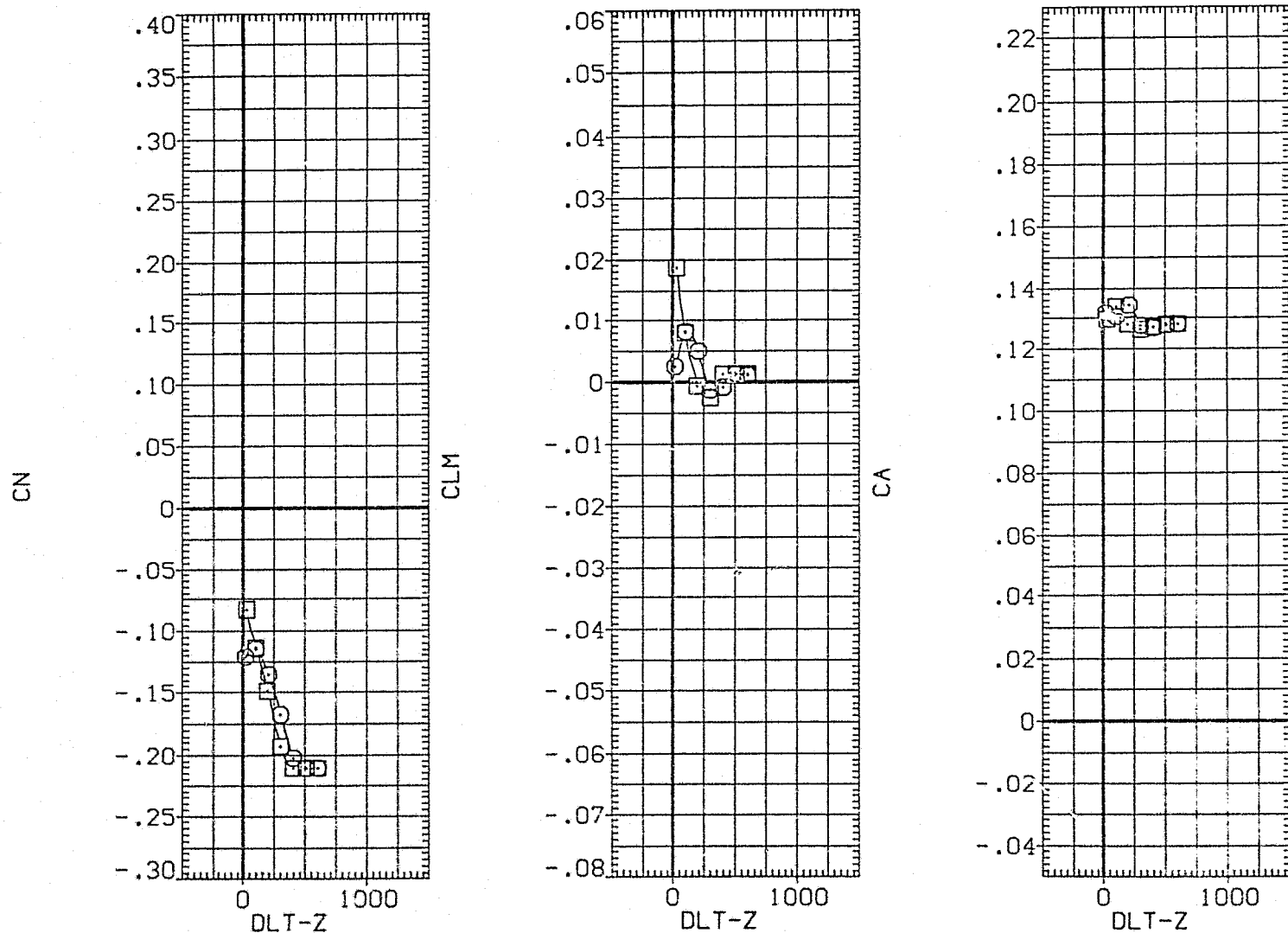


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR287)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	ELEVON
○	.486	60.000	DLTALF	.000	-40.000
□	400.510	BETA	MACH	5.930	
		DLTBTA			
		AILRON			
		GRID	11.000		

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1230.3000	IN.
BREF	1230.3000	IN.
XMRP	1000.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

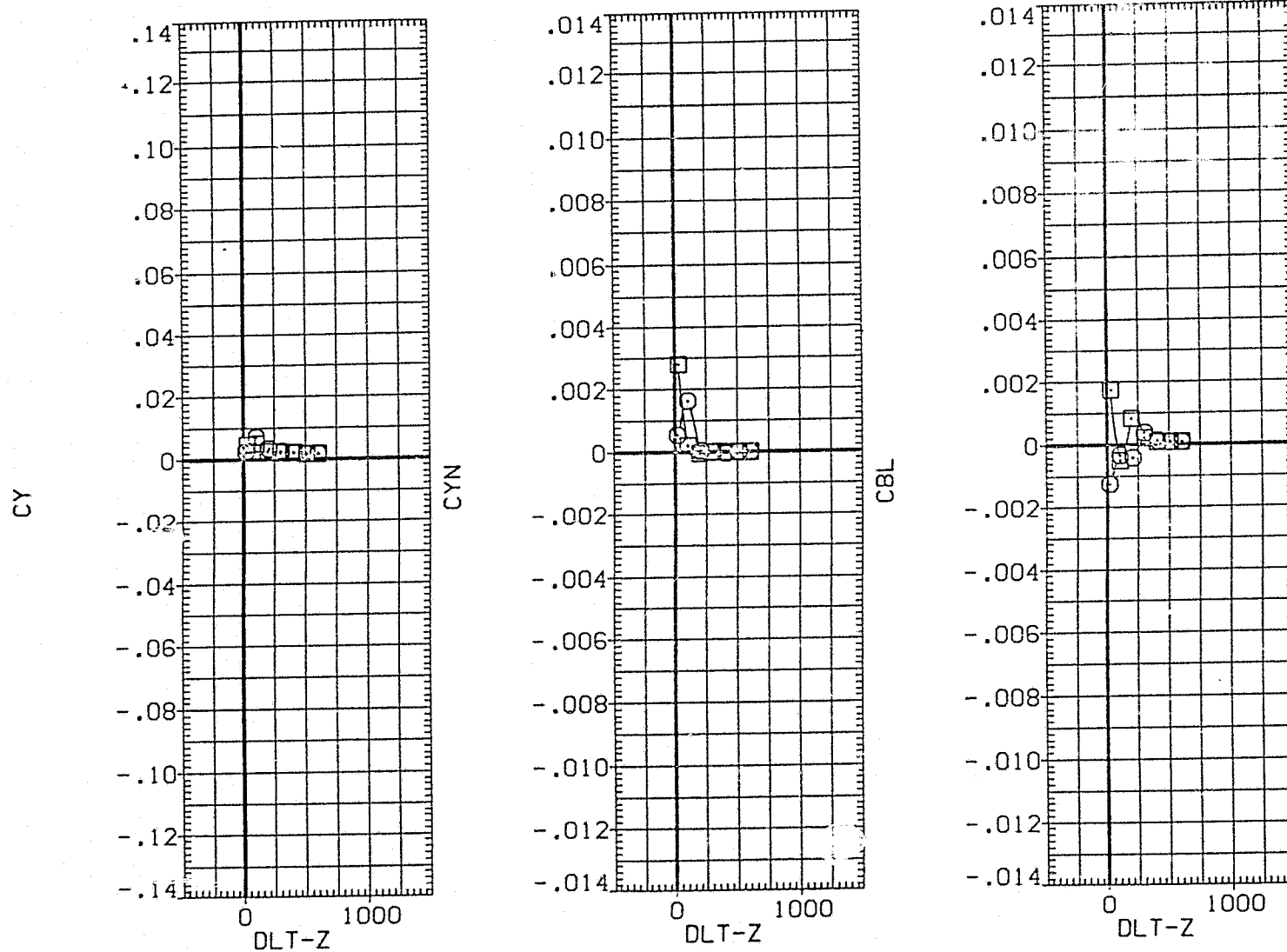


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR288)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.521	60.000	ALPHA	-5.000
□	400.520	.000	DLTALF	-10.000
		3.000	MACH	5.930
		.000	ELEVON	-40.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

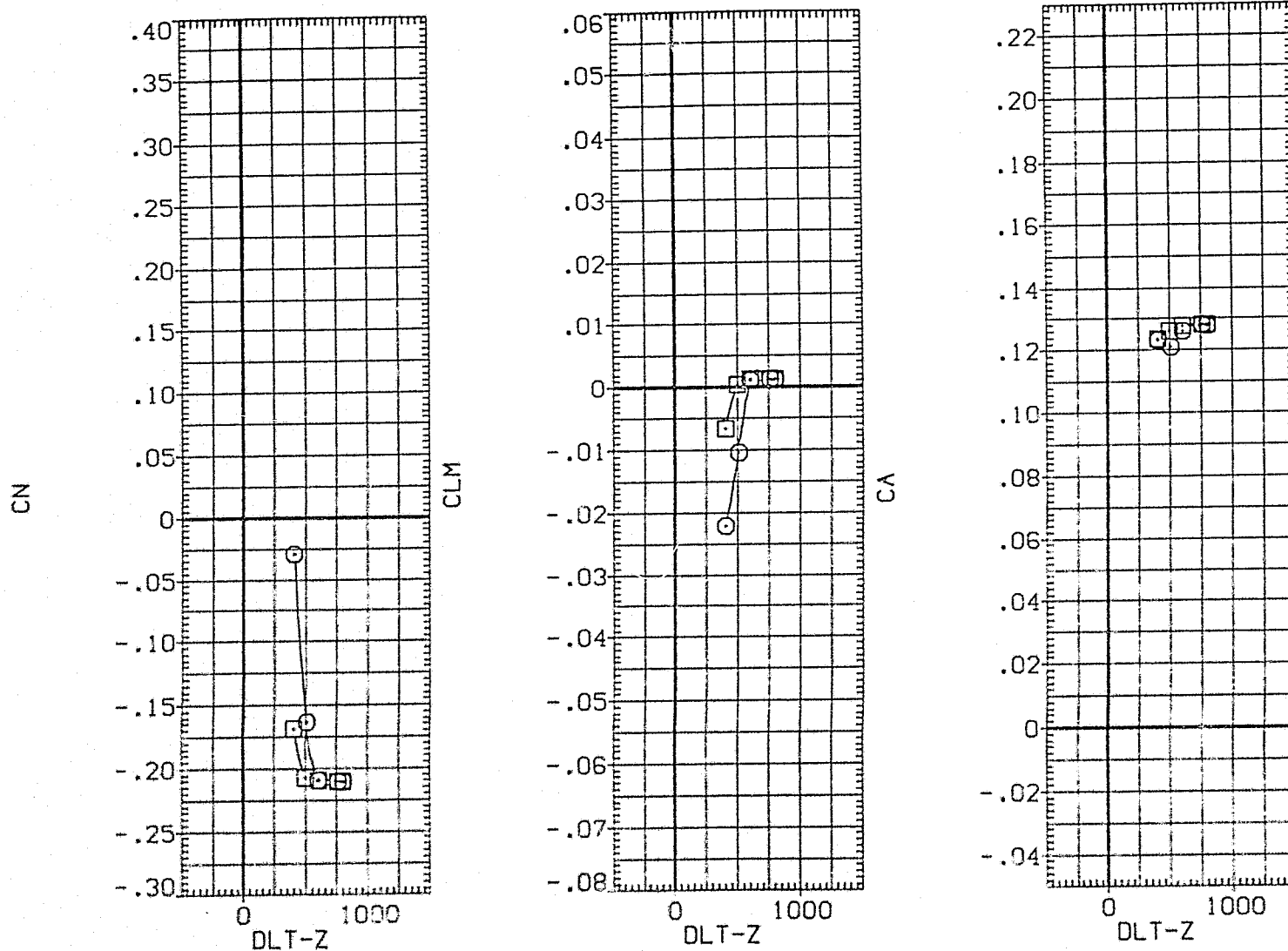


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR288)

SYMBOL



DLT-X

.521
400.520

DLT-Y

BETA

DLTBTA

AILRON

GRID

PARAMETRIC VALUES

60.000

.000

3.000

.000

11.000

ALPHA

DLTALF

MACH

ELEVON

-5.000

-10.000

5.930

-40.000

REFERENCE INFORMATION

SREF	2690.0000	SD.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1269.6000	IN. XC
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

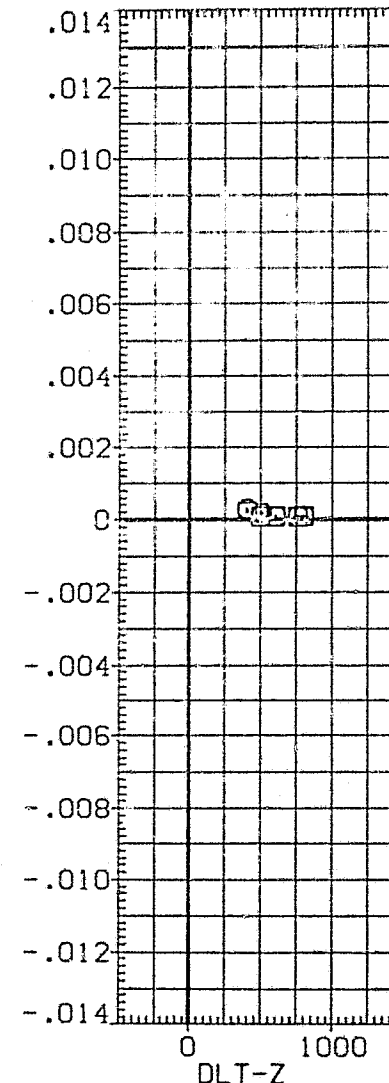
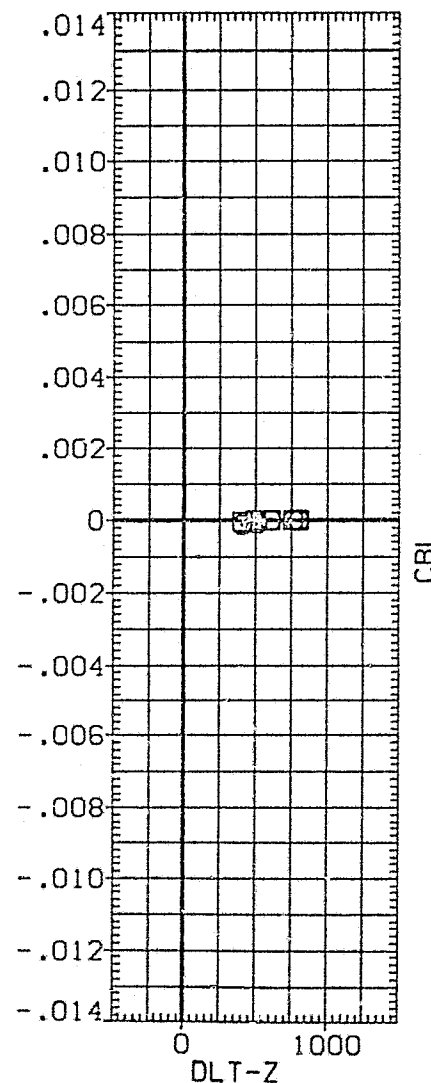
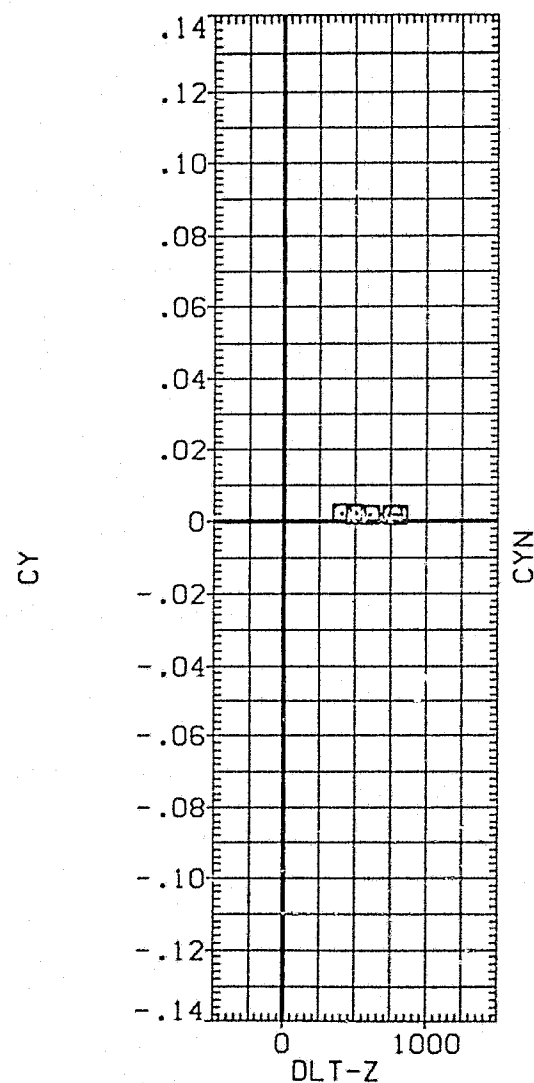


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR290)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.410	60.000	ALPHA	-5.000
□	400.430	.000	DLTALF	-20.000
		3.000	MACH	5.930
		.000	ELEVON	-40.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

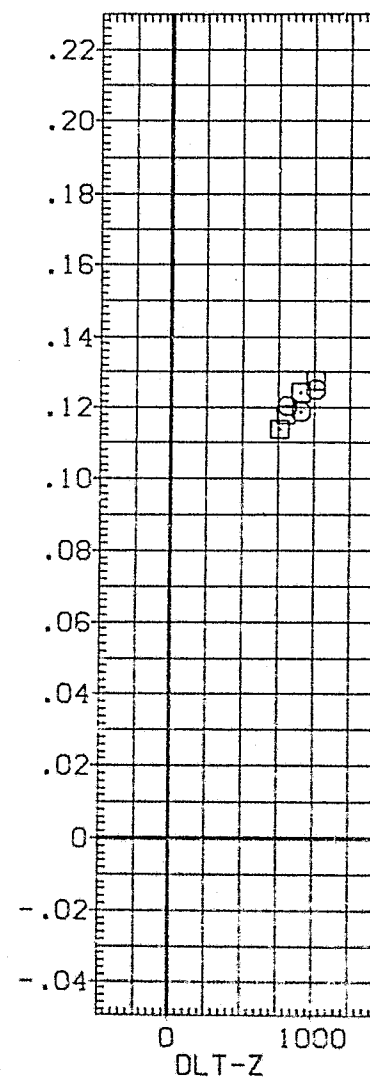
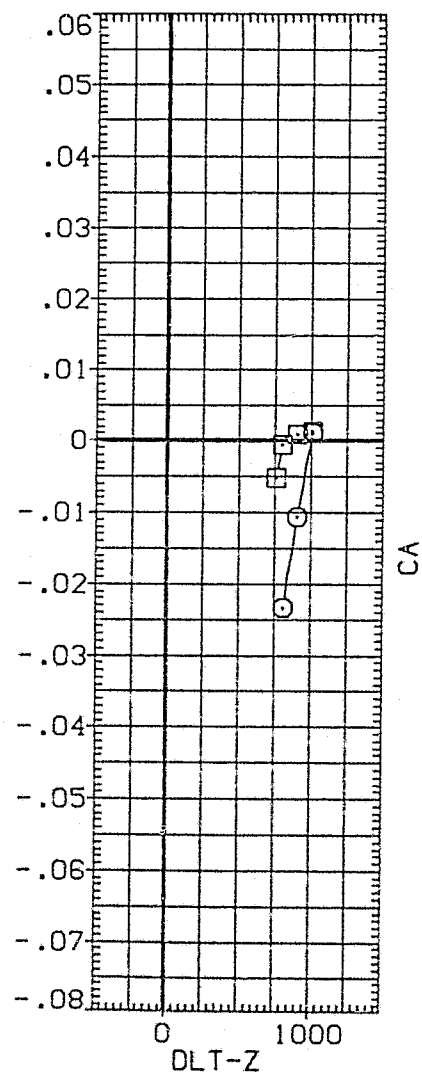
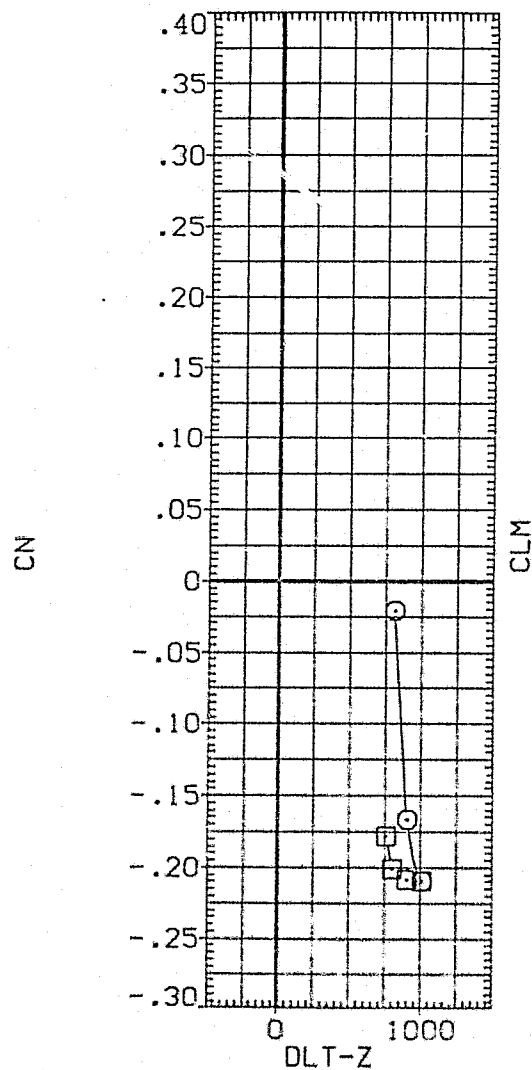


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR290)

SYMBOL



DLT-X

.410

DLT-Y

BETA

DLTBTA

ATLRON

GRID

PARAMETRIC VALUES

60.000

.000

3.000

.000

11.000

ALPHA

DLTALF

MACH

ELEVON

-5.000

-20.000

5.930

-40.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 N.

BREF 1290.3000 N.

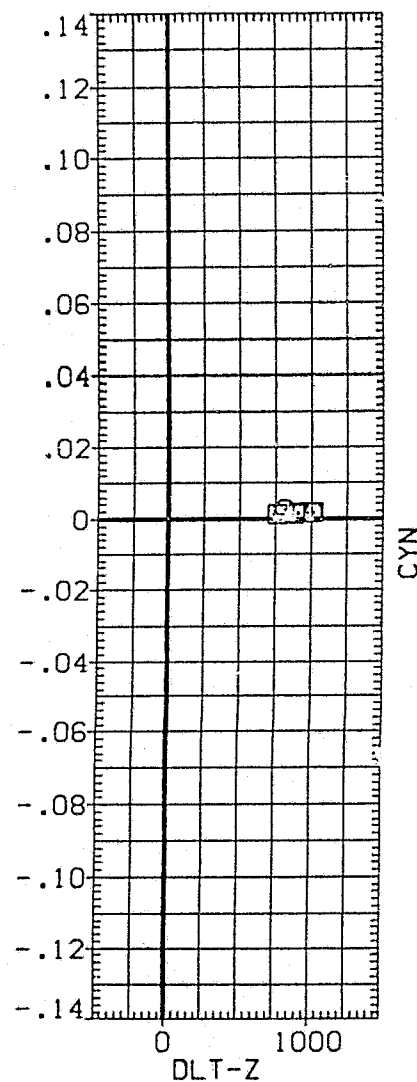
XMRP 1089.6000 N. XC

YMRP .0000 N. YC

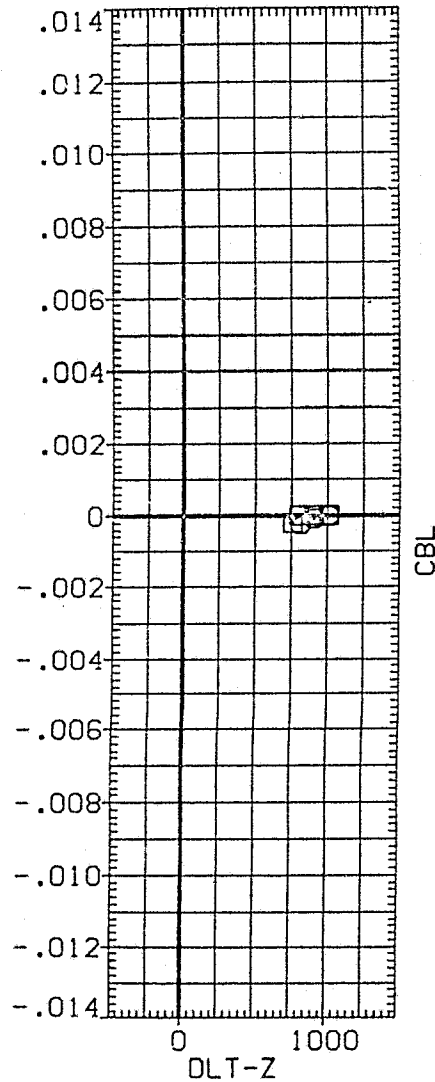
ZMRP 375.0000 N. ZC

SCALE .0100

CY



CYN



CBL

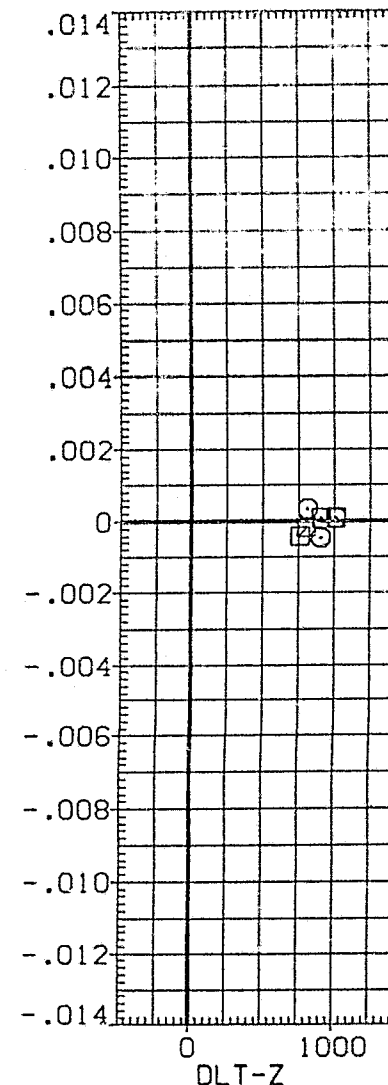


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR291)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.452	60.000		-10.000	
□	400.440	.000	DLTALF	.000	
		3.000	MACH	5.930	
		.000	ELEVON	-40.000	
		10.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

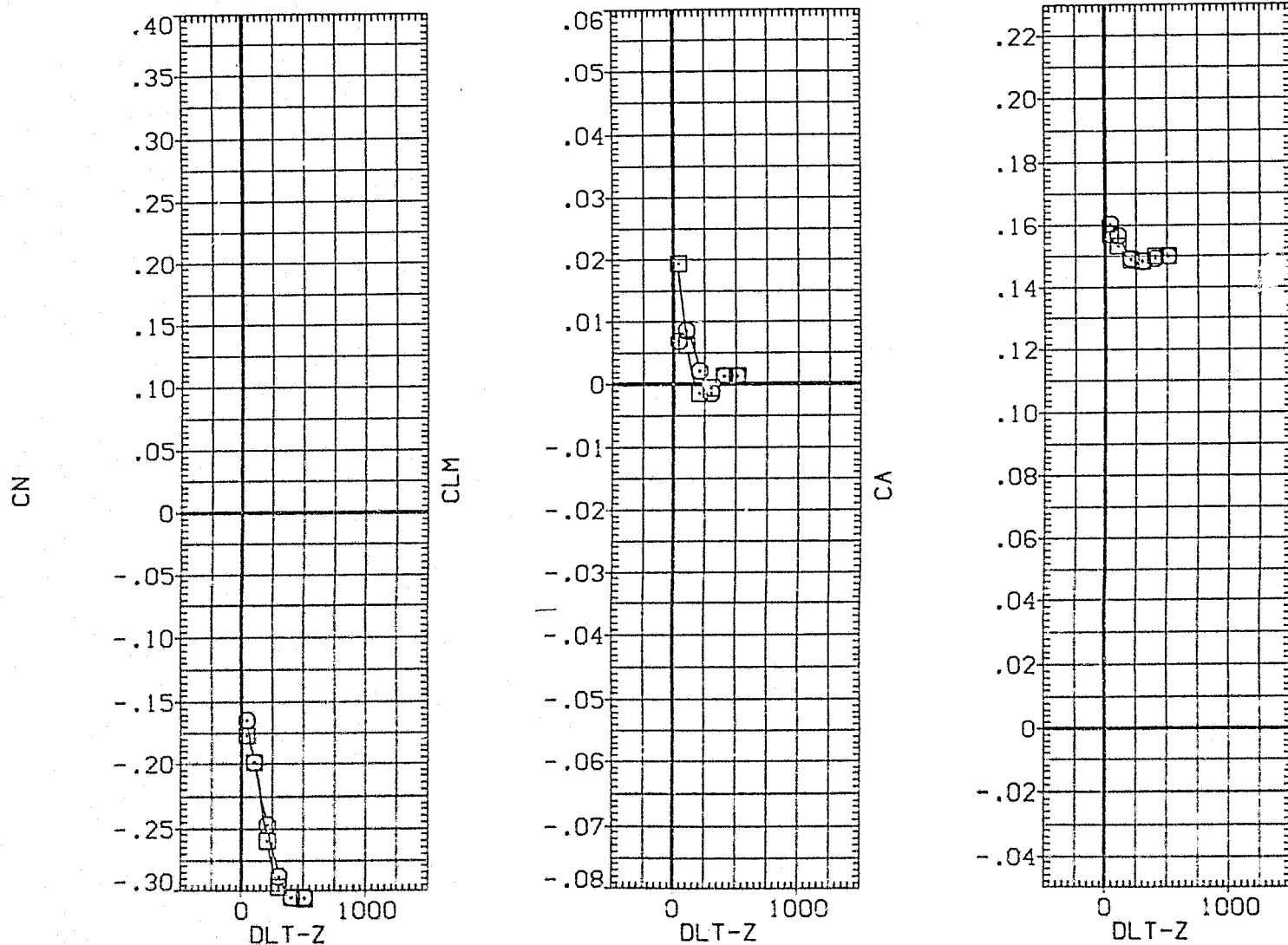


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR291)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.452	60.000	ALPHA	-10.000
□	400.440	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	-40.000
		10.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 N.
BREF	1290.3000 N.
XMRP	1089.6000 N. X0
YMRP	.0000 N. Y0
ZMRP	375.0000 N. Z0
SCALE	.0100

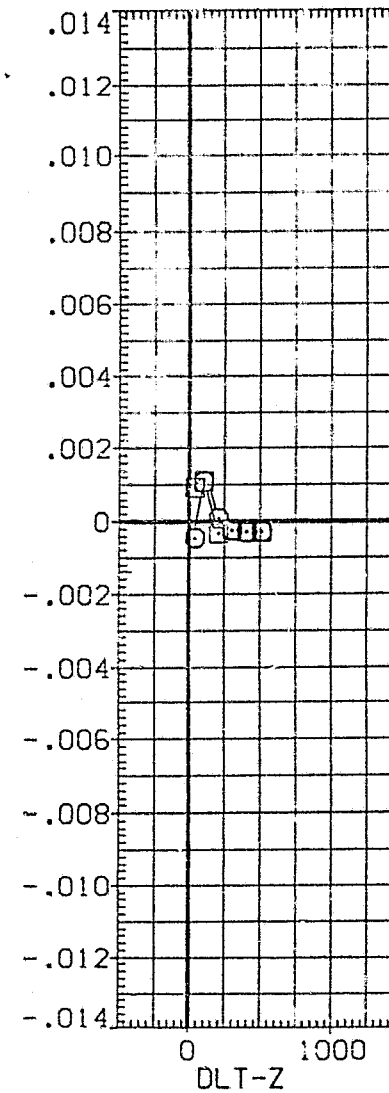
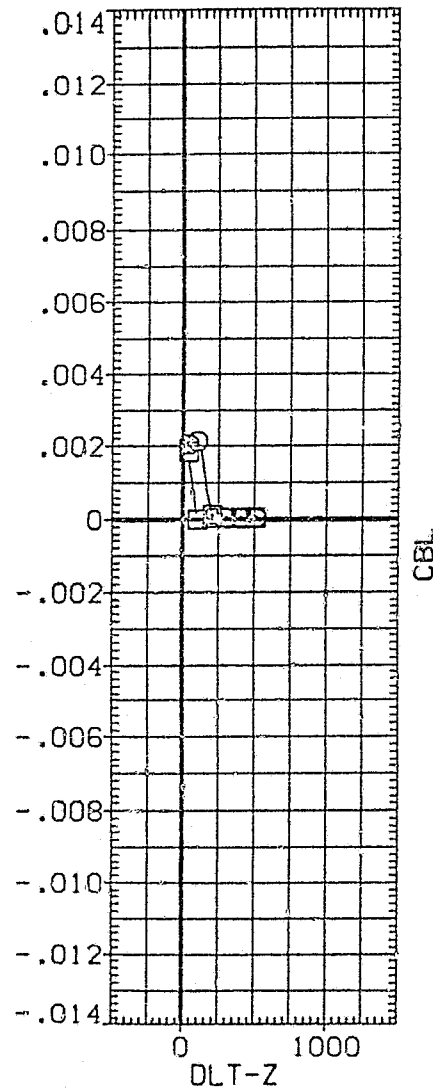
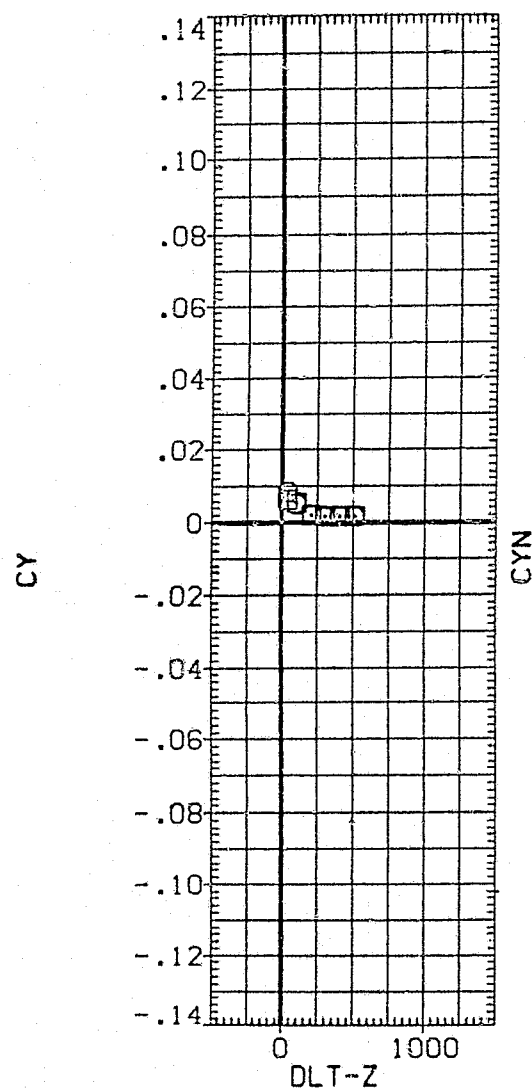


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93, ELEVON= -40)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR292)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.490	BETA	60.000	ALPHA -70.000
□	400.380	DLTBT	.000	DLTALF -10.000
		AIRLON	3.000	MACH 5.930
		GRID	.000	ELEVON -40.000
			10.000	

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

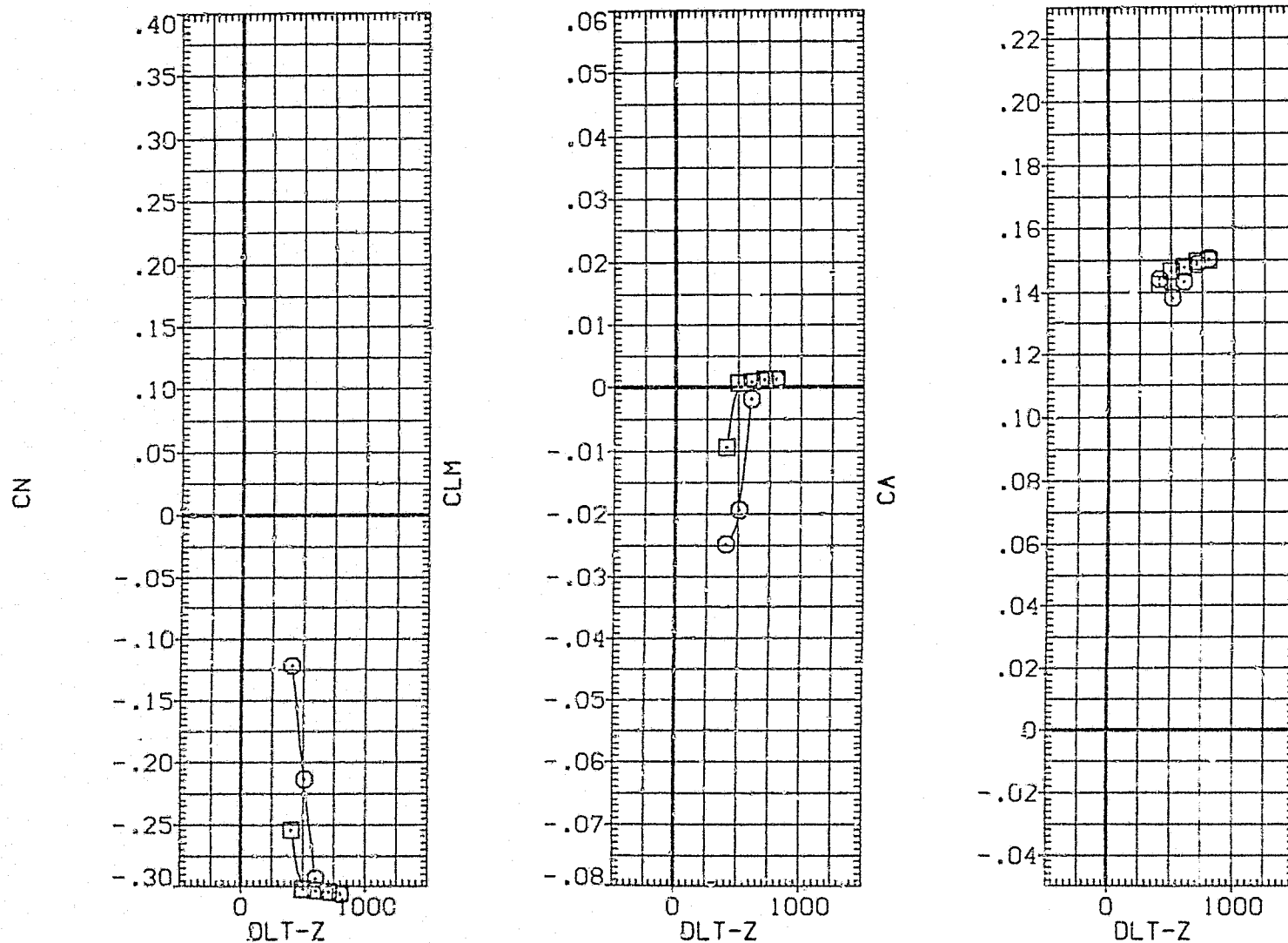


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR292)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.490	60.000	ALPHA	-10.000
□	400.380	BETA	.000	DLTALF -10.000
		DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON -40.000
		GRID	10.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

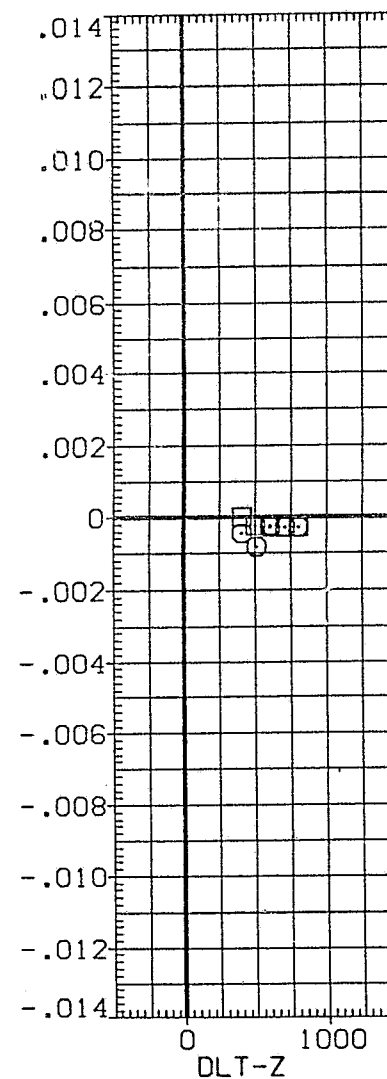
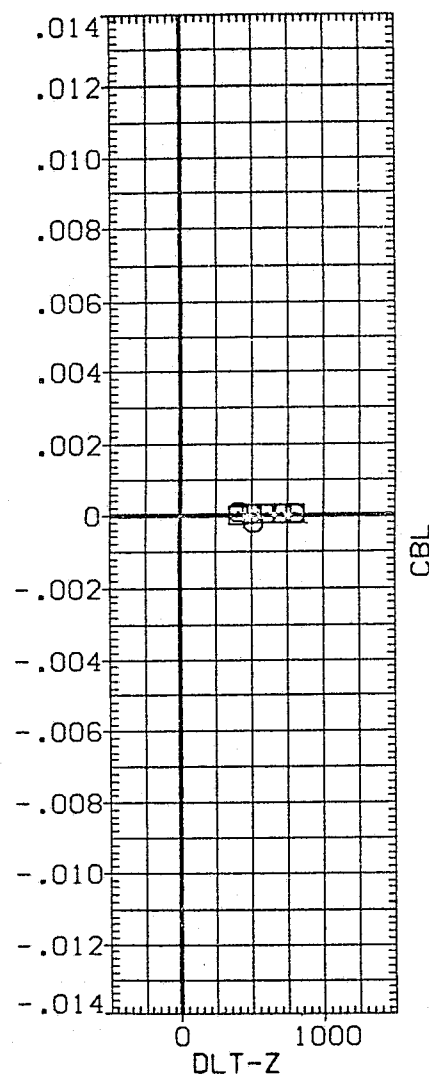
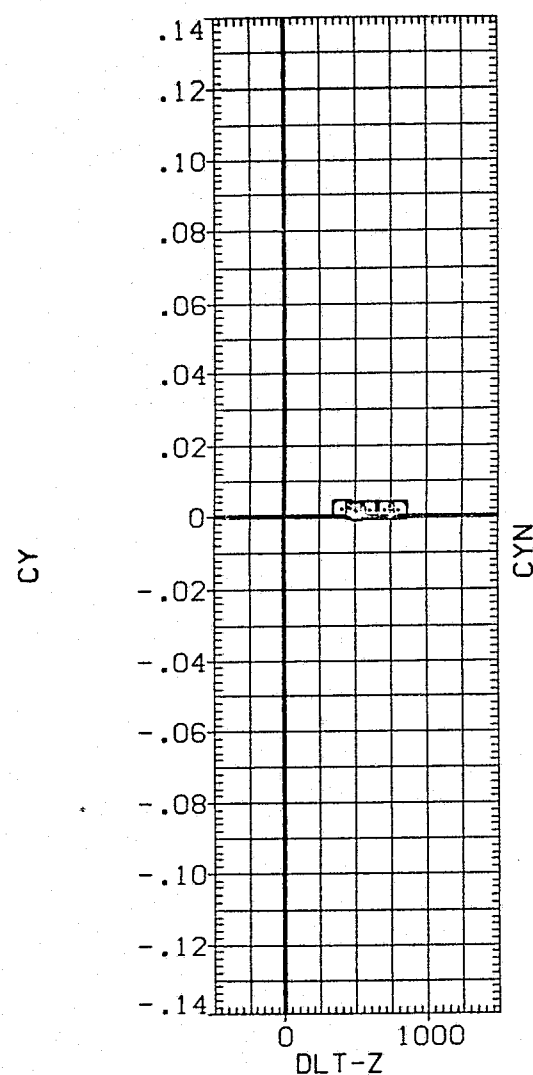


FIGURE 16 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,ELEVON= -40)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR296)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.462	BETA	60.000	ALPHA .000
□	400.460	DLTBTA	.000	DLTALF .000
		AILRON	3.000	MACH 5.930
		GRID	15.000	ELEVON .000
			13.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

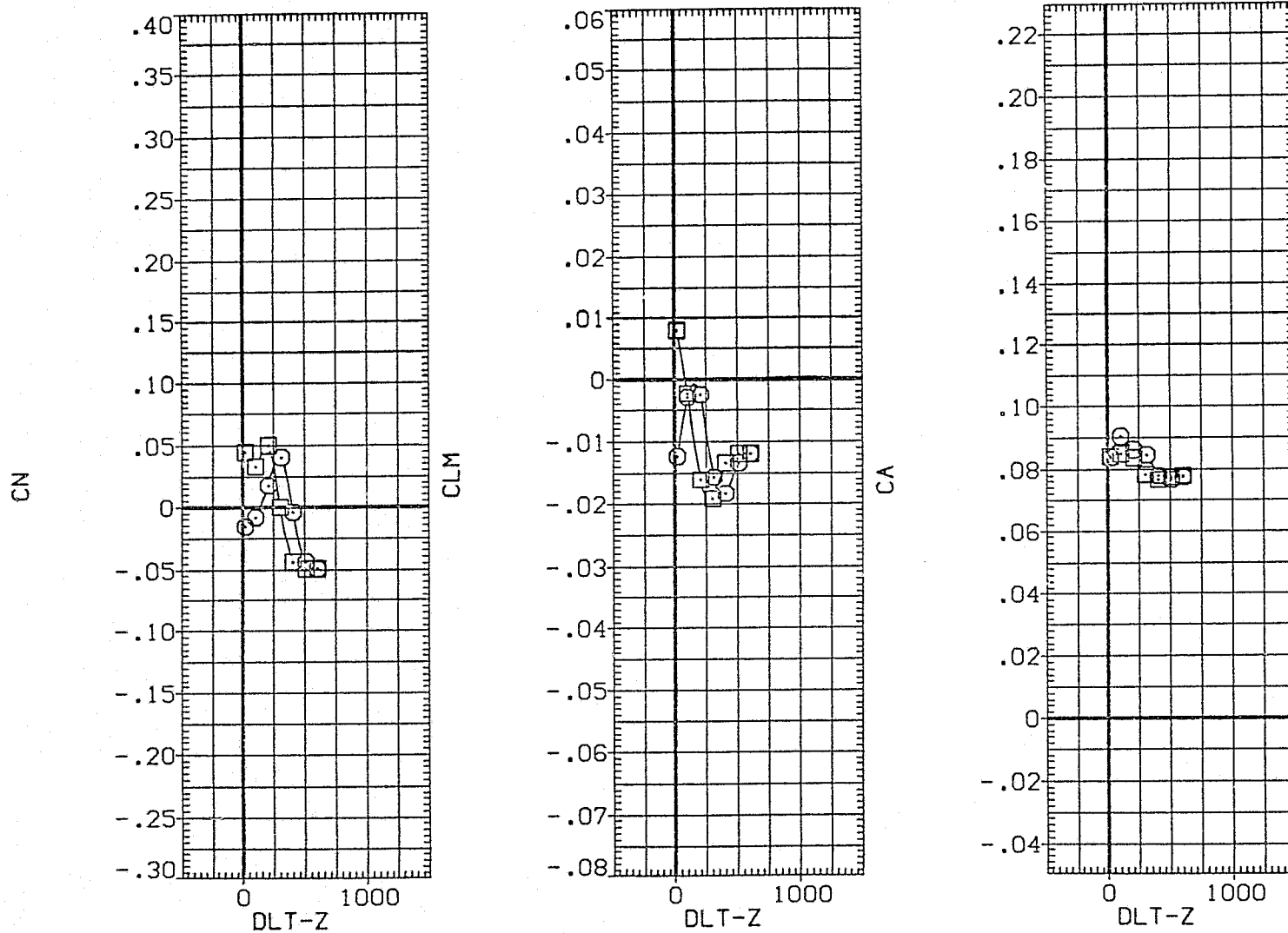


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILRON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR296)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.462	60.000	ALPHA .000
□	400.460	BETA .000	DLTALF .000
		DLTBTA 3.000	MACH 5.930
		AILRON 15.000	ELEVON .000
		GRID 13.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

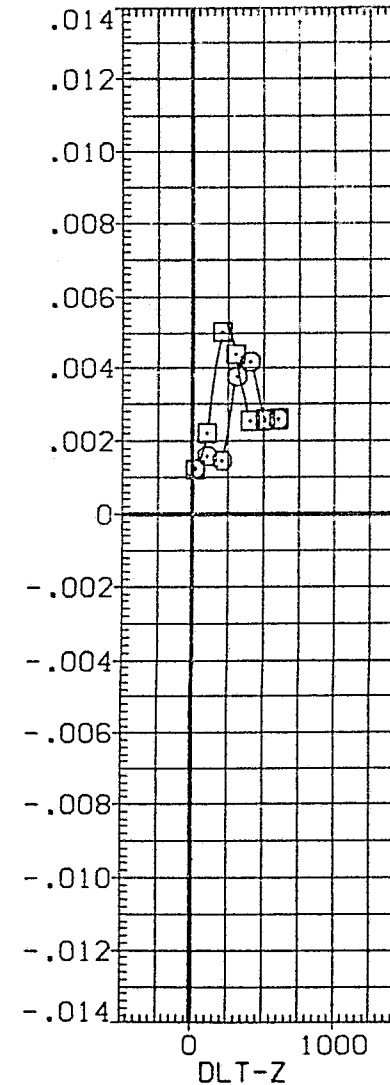
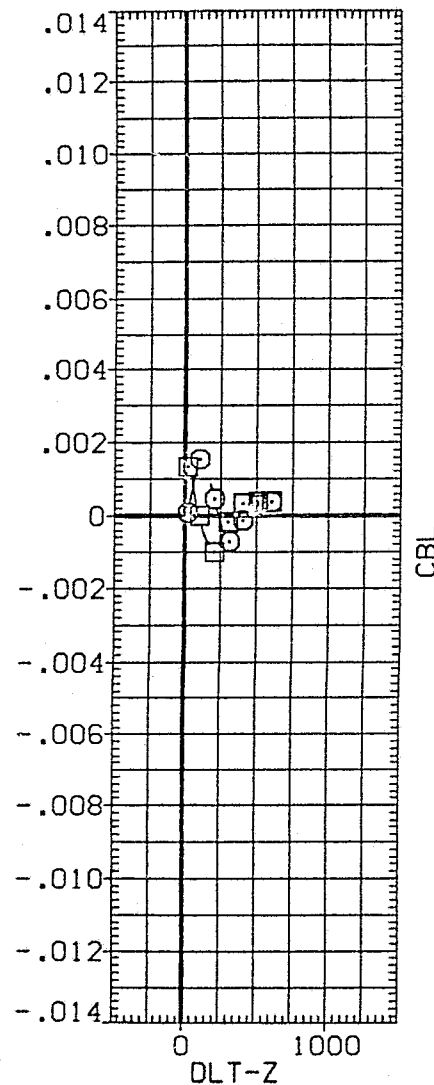
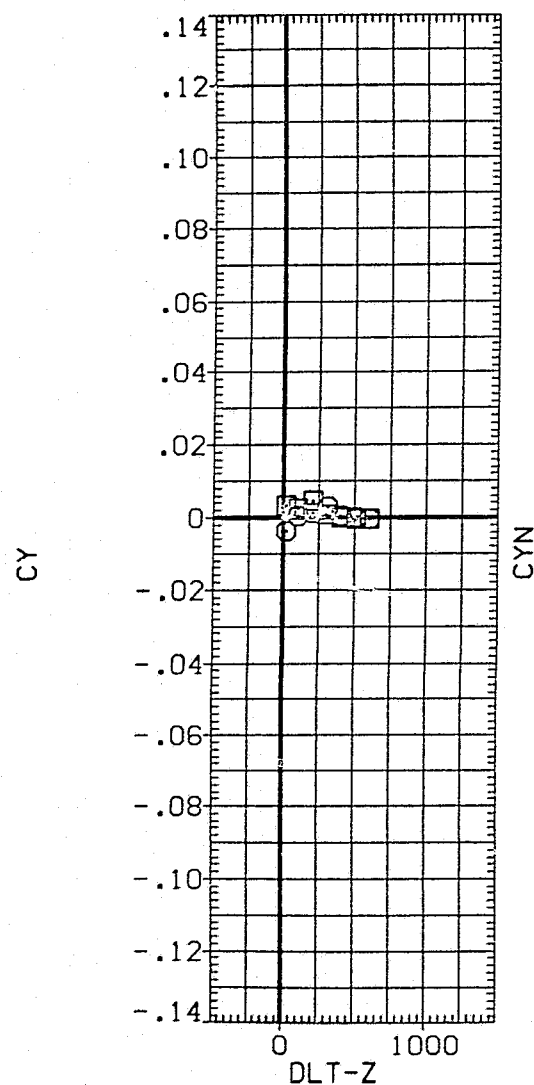


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR297)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.435	60.000	DLTALF	.000	
□	400.370	.000	MACH	-10.000	
		3.000	ELEVON	5.930	
		15.000		.000	
		13.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

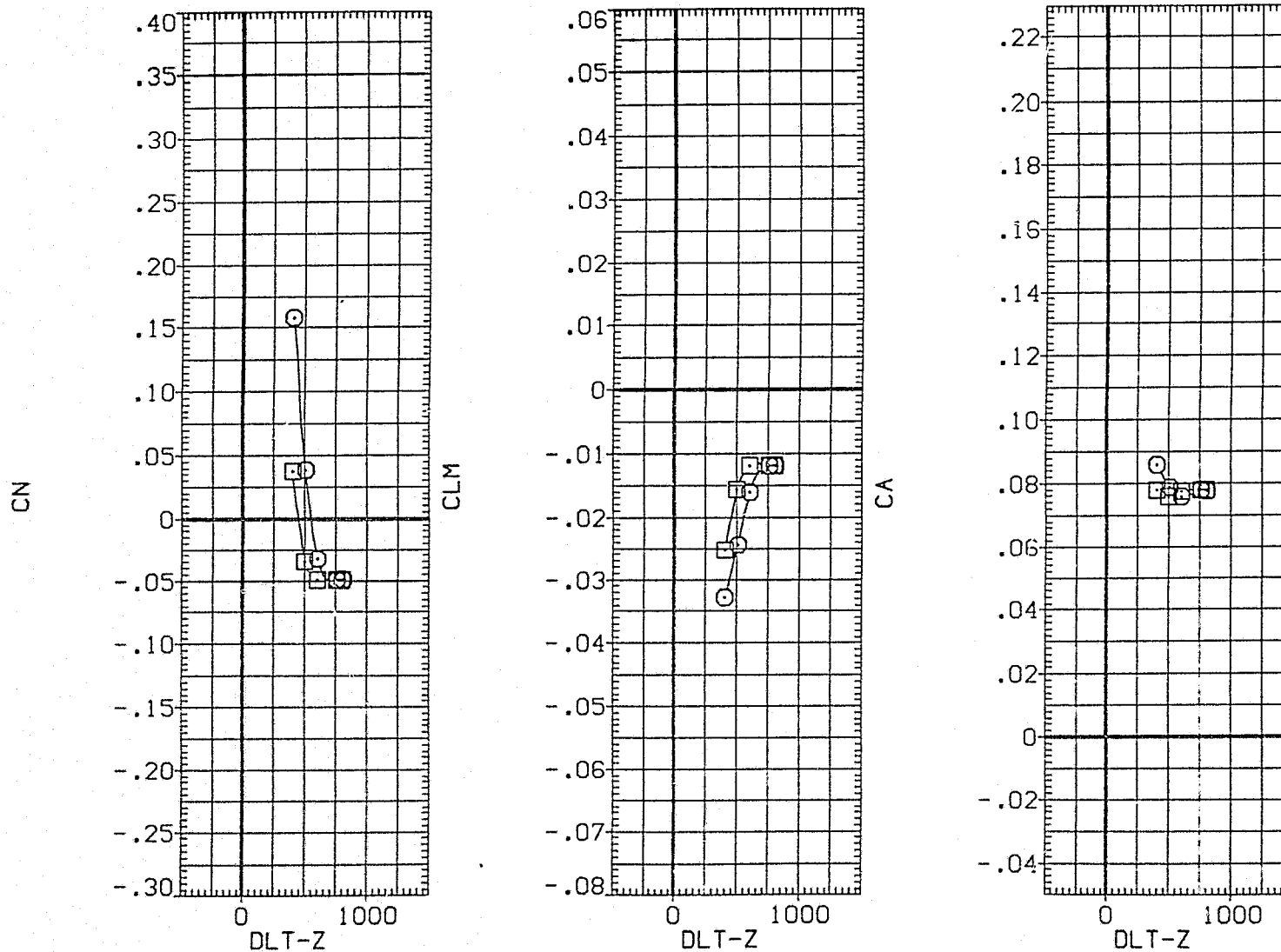


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR297)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.435	60.000	ALPHA .000
□	400.370	.000	DLTALF -10.000
		3.000	MACH 5.930
		15.000	ELEVON .000
		13.000	

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

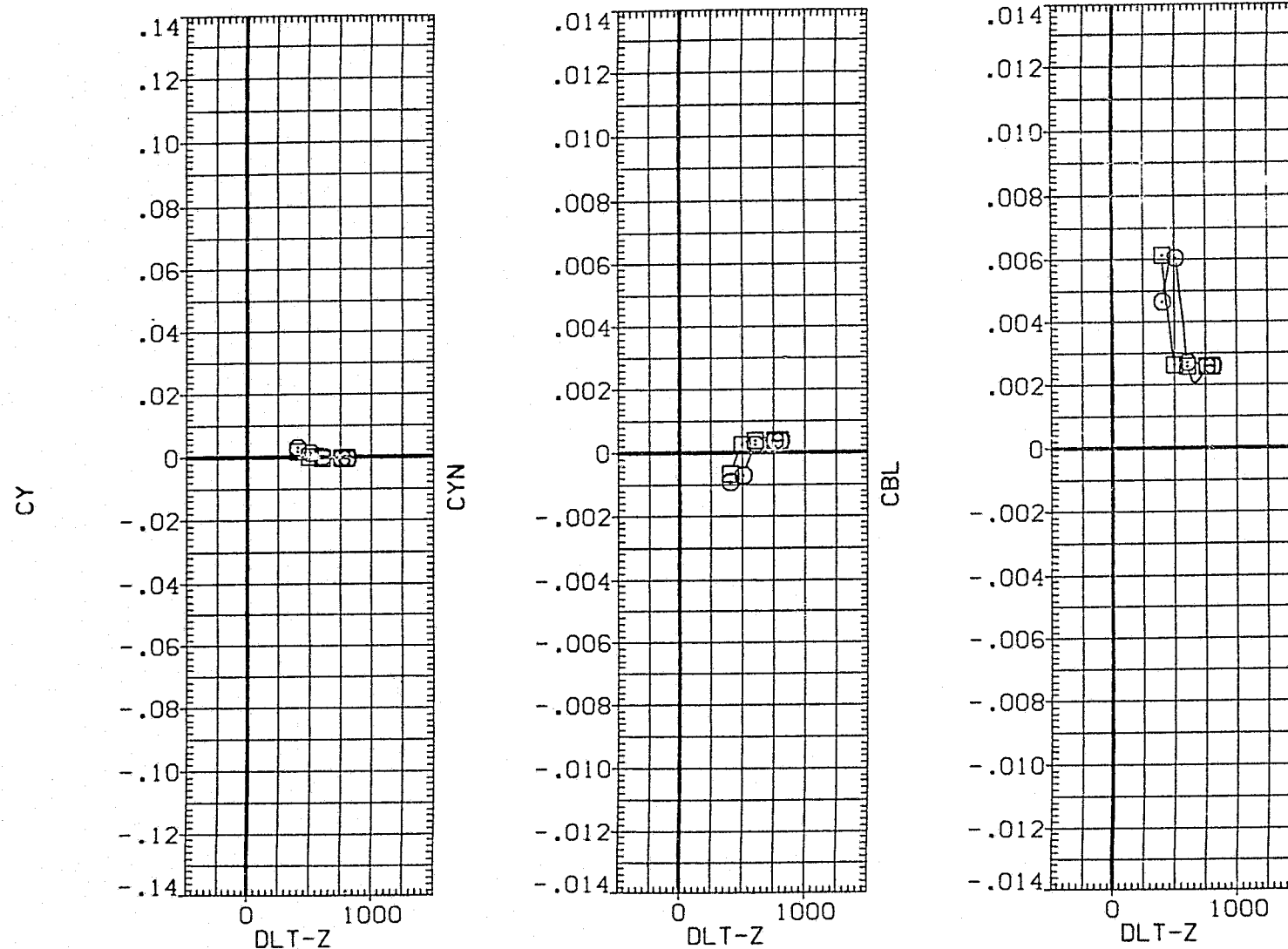


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR299)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.402		60.000	.000	
□	400.530	BETA	.000	DLTALF	-20.000
		DLTBTA	3.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	13.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

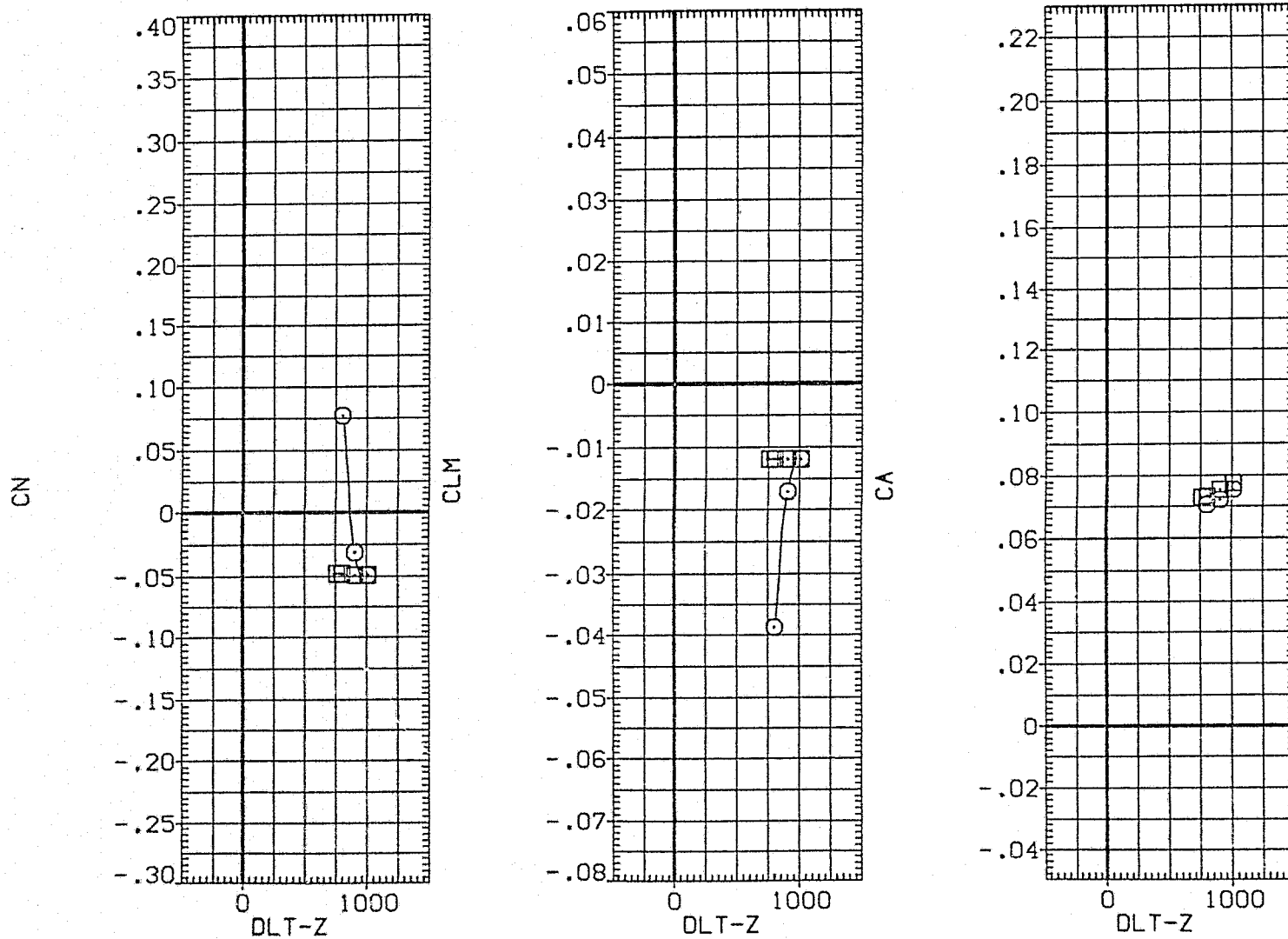


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR299)

SYMBOL



DLT-X

.402
400.530

DLT-Y

BETA

DLTBT

AILERON

GRID

PARAMETRIC VALUES

EG.000

.000

3.000

15.000

13.000

ALPHA

DLTALF

MACH

ELEVON

.000

-20.000

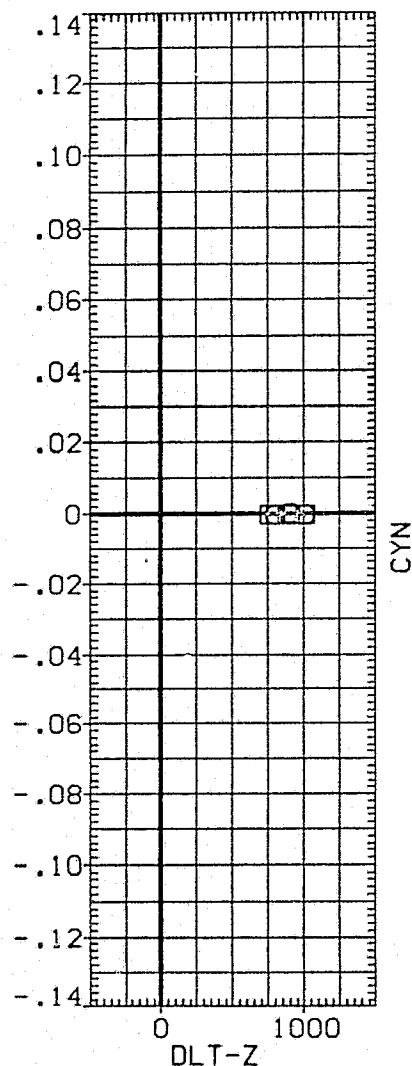
5.930

.000

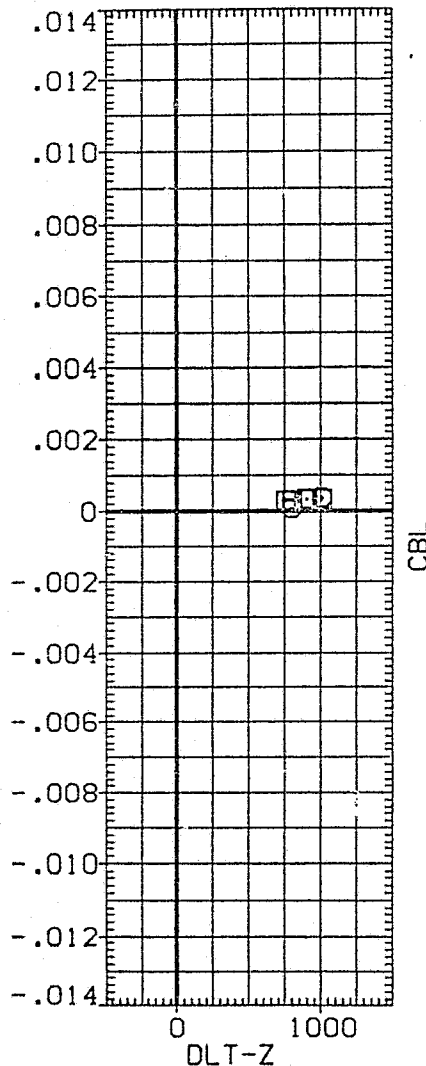
REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

CY



CYN



CBL

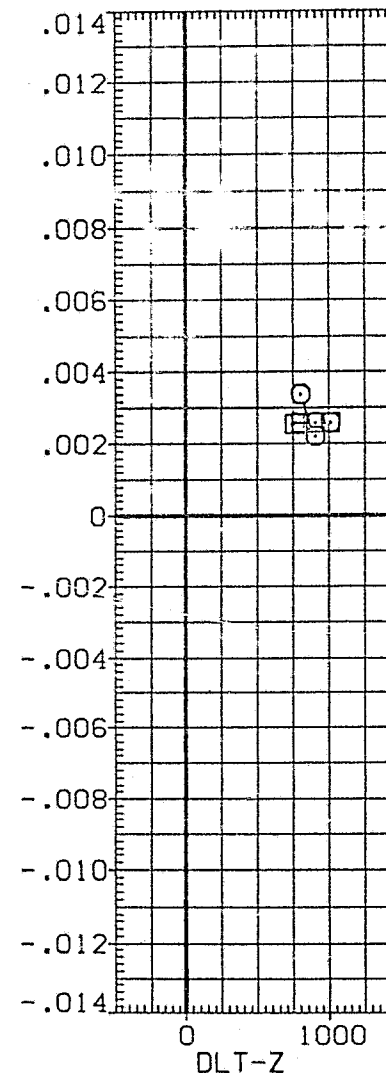


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR293)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.498	BETA	60.000	ALPHA .000
		DLTBTA	3.000	DLTALF .000
		AILRON	3.000	MACH 5.930
		GRID	15.000	ELEVON .000
			14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

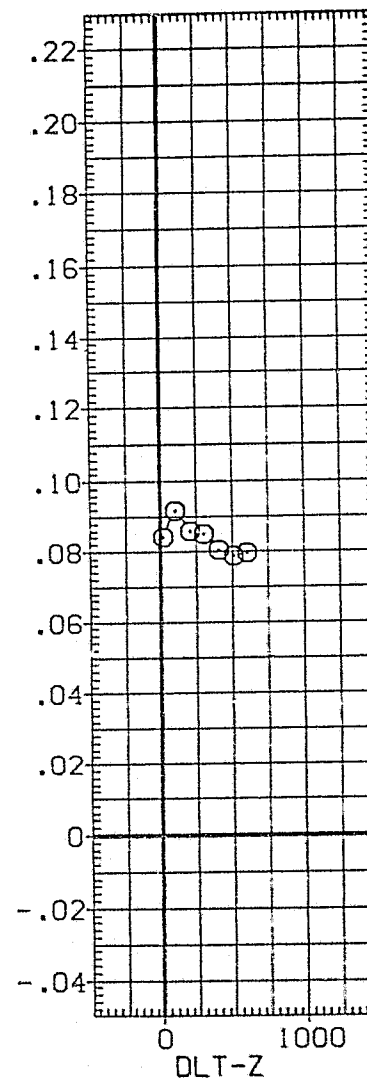
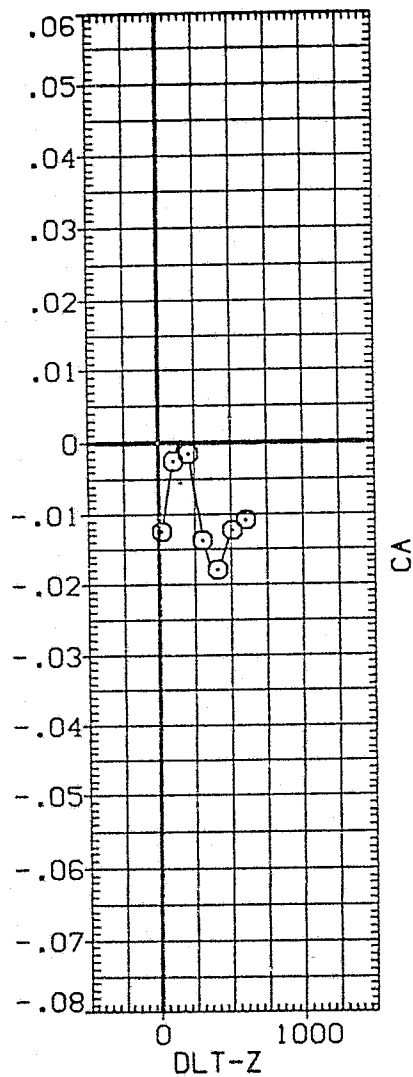
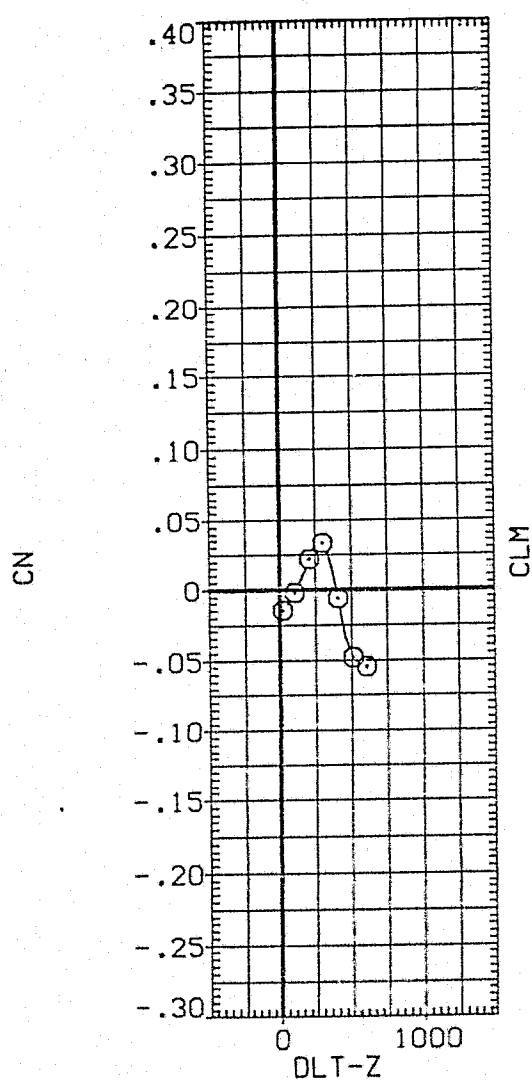


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR293)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.498	DLT-Y 60.000	ALPHA .000
		BETA 3.000	DLTALF .000
		DLTBTA 3.000	MACH 5.930
		AILRON 15.000	ELEVON .000
		GRID 14.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

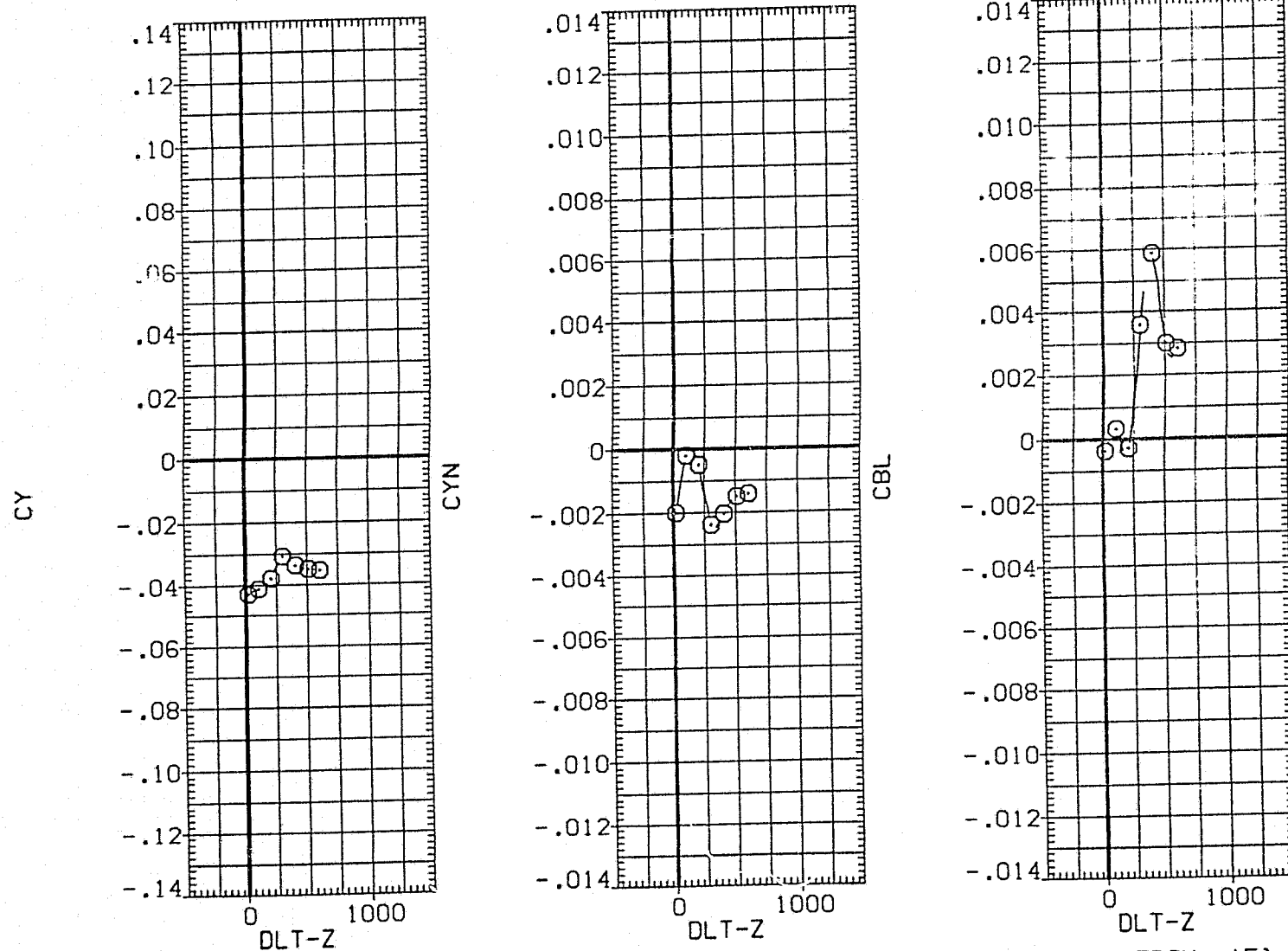


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILRON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR294)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.446	BETA	60.000	ALPHA .000
		DLTBTA	3.000	DLTALF -10.000
		AILERON	15.000	MACH 5.930
		GRID	14.000	ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

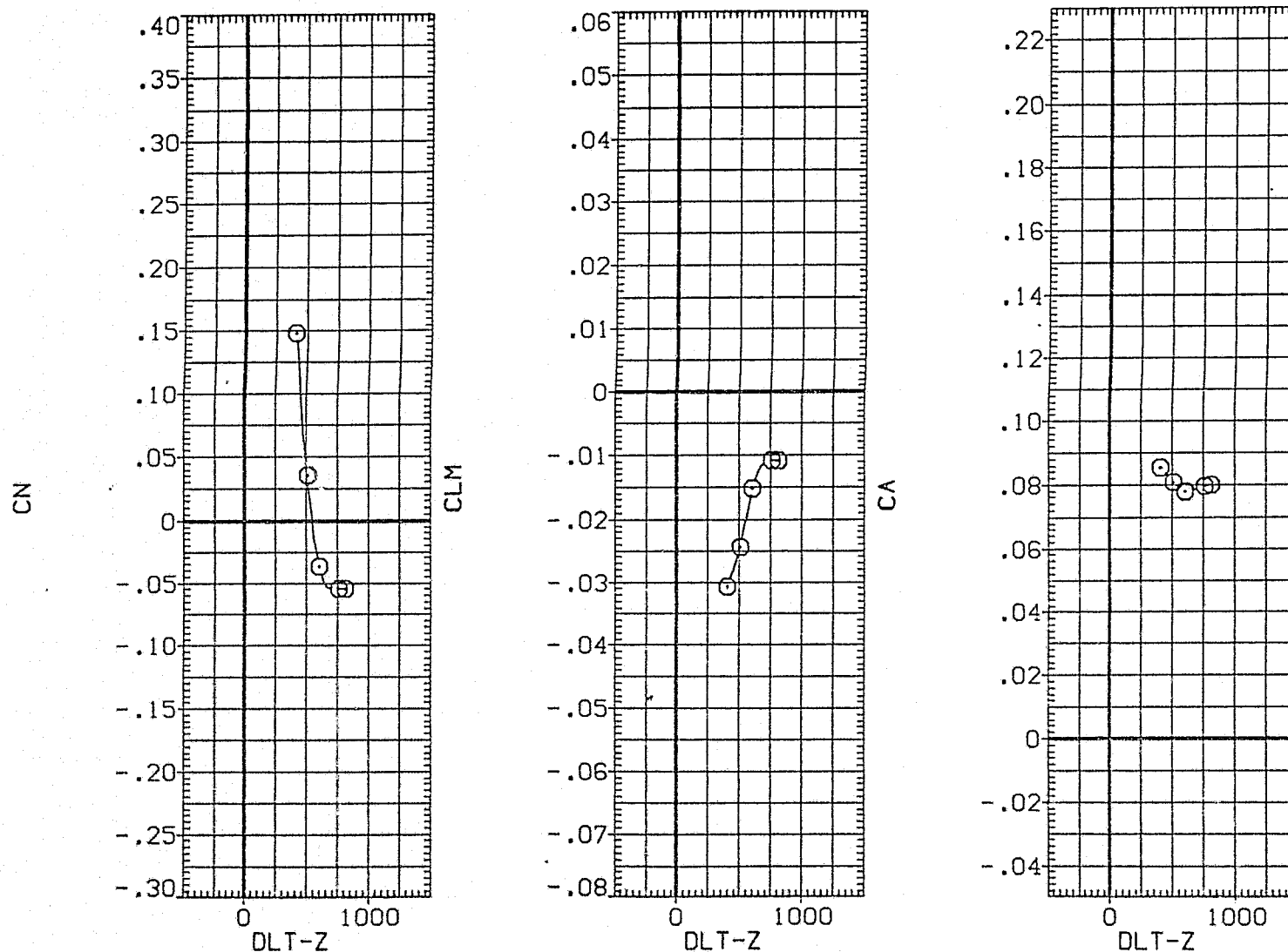


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR294)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.446	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-10.000
		DLTBTA	3.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

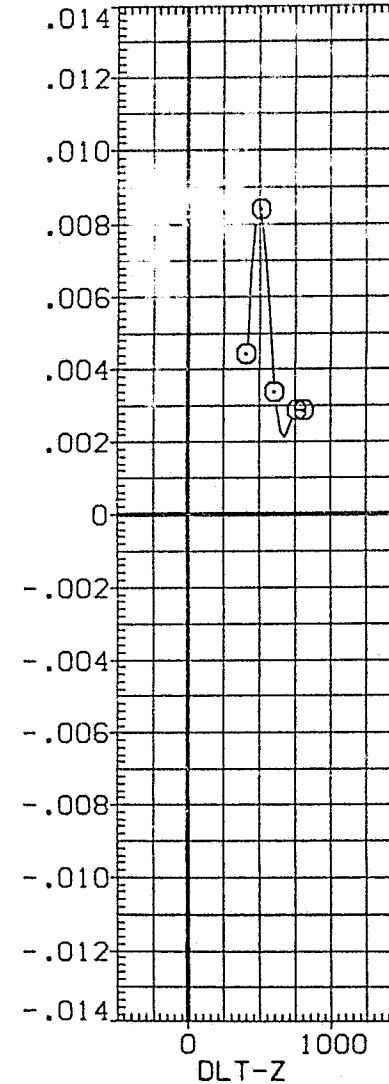
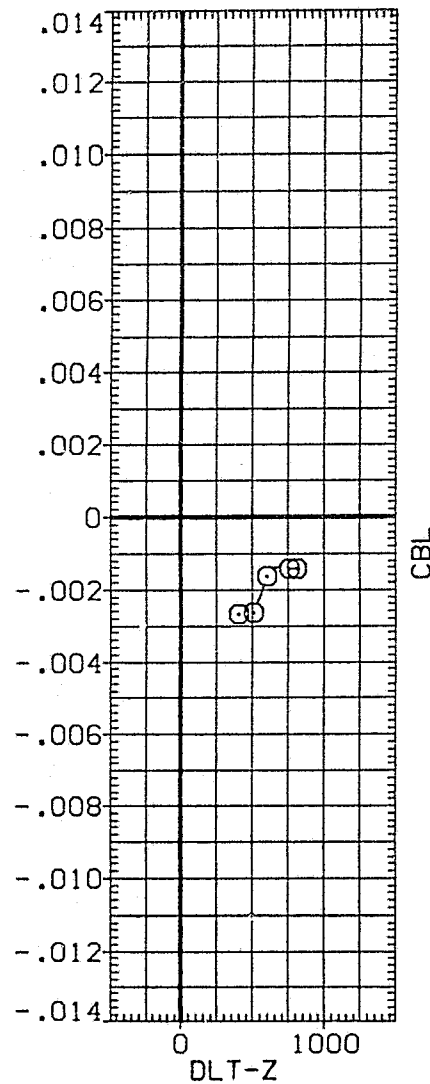
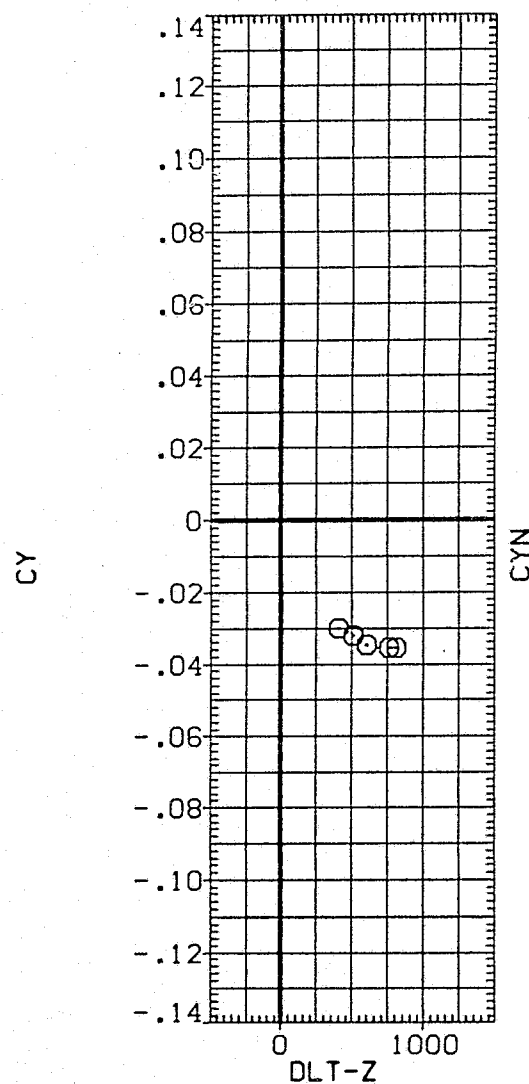


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR295)

SYMBOL

○

DLT-X

.560

DLT-Y

PARAMETRIC VALUES

60.000

ALPHA

.000

BETA

3.000

DLTALF

-20.000

DLTBTA

3.000

MACH

5.930

AILRON

15.000

ELEVON

.000

GRID

14.000

REFERENCE INFORMATION

SREF 2690.0000

SQ.FT.

LREF 1290.3000

IN.

BREF 1290.3000

IN.

XMRP 1089.6000

IN. X0

YMRP .0000

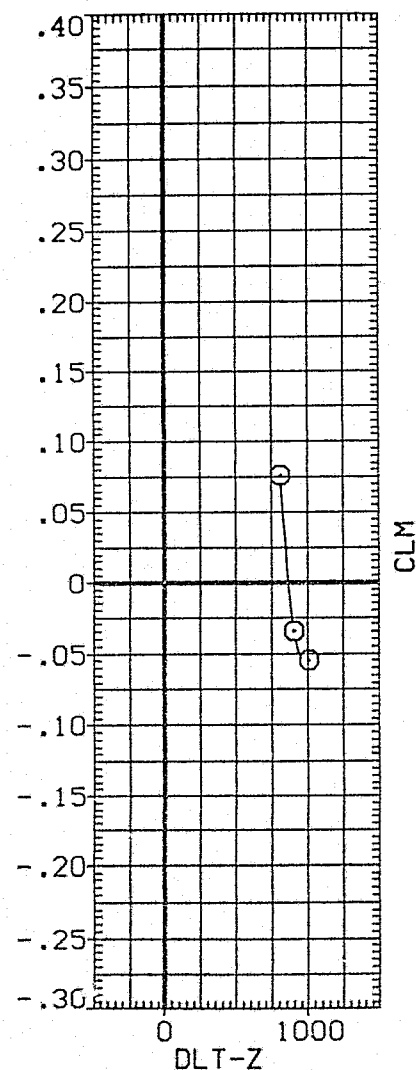
IN. Y0

ZMRP 375.0000

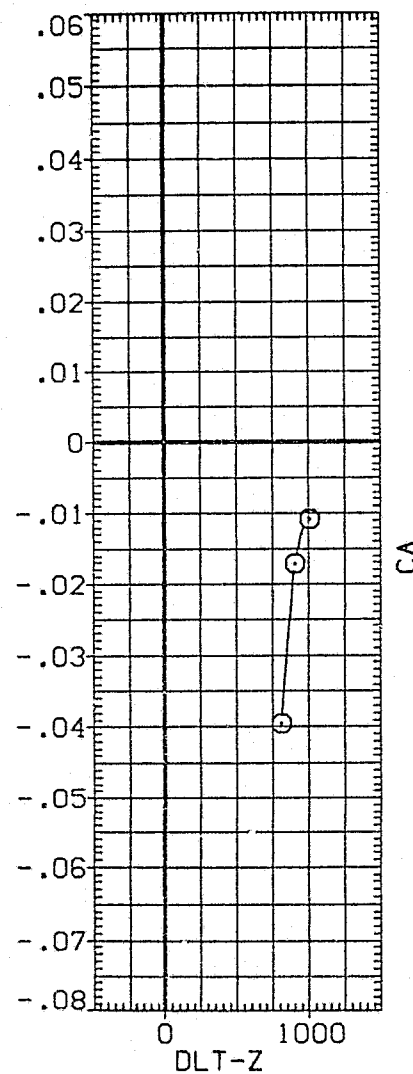
IN. Z0

SCALE .0100

CN



CLM



CA

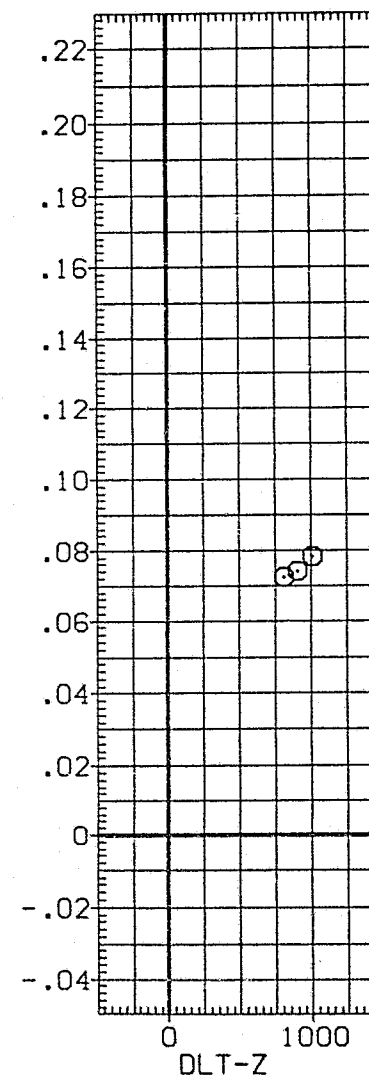


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR295)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.560	DLT-Y	60.000	ALPHA	.000
		BETA	3.000	DLTALF	-20.000
		DLTBTA	3.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	14.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

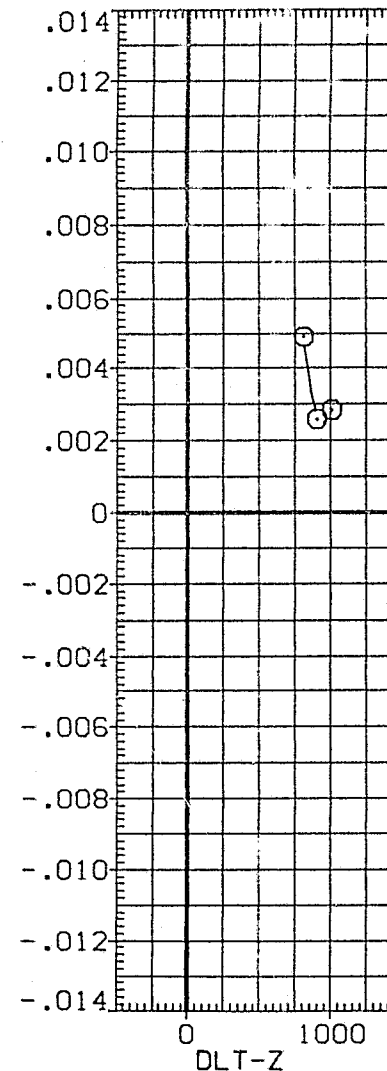
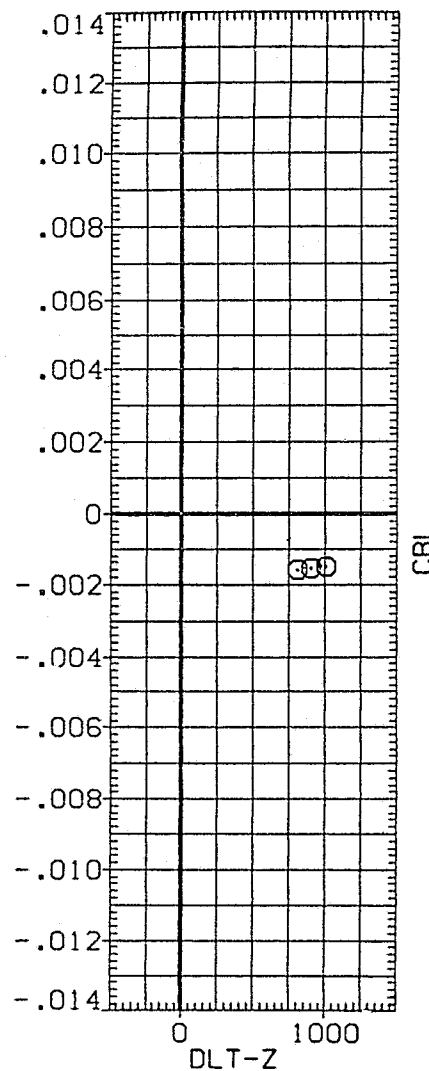
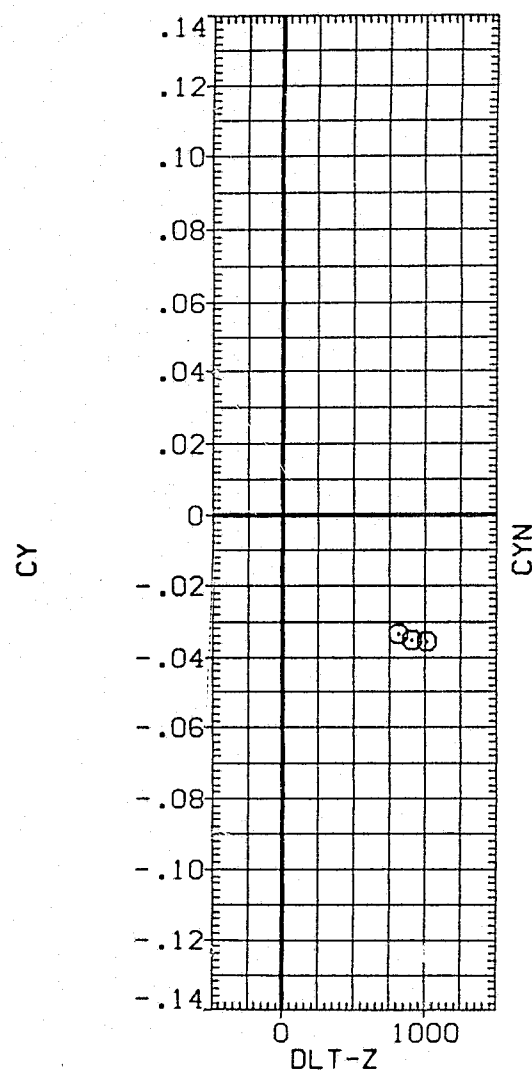


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR300)

SYMBOL DLT-X DLT-Y PARAMETRIC VALUES
 ○ .616 60.000 ALPHA 5.000
 □ 400.450 .000 DLTALF .000
 DLTBT 3.000 MACH 5.930
 AILRON 15.000 ELEVON .000
 GRID 12.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 1089.6000 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0100

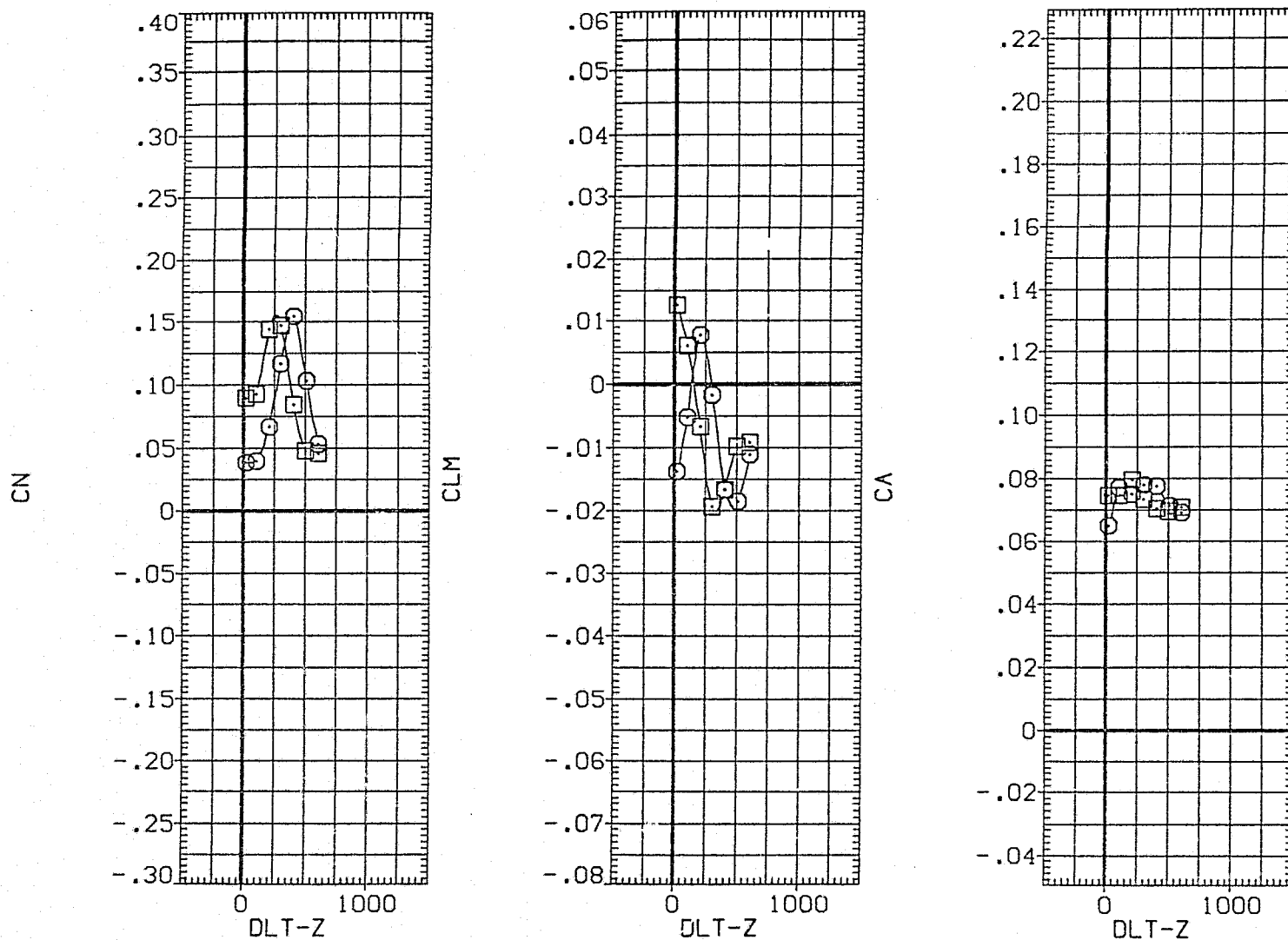


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR300)

SYMBOL ○ □	DLT-X	PARAMETRIC VALUES			
	.616	DLT-Y	60.000	ALPHA	5.000
	400.450	BETA	.000	DLTALF	.000
		DLTBT	3.000	MACH	5.930
		AILRON	15.000	ELEVON	.000
		GRID	12.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

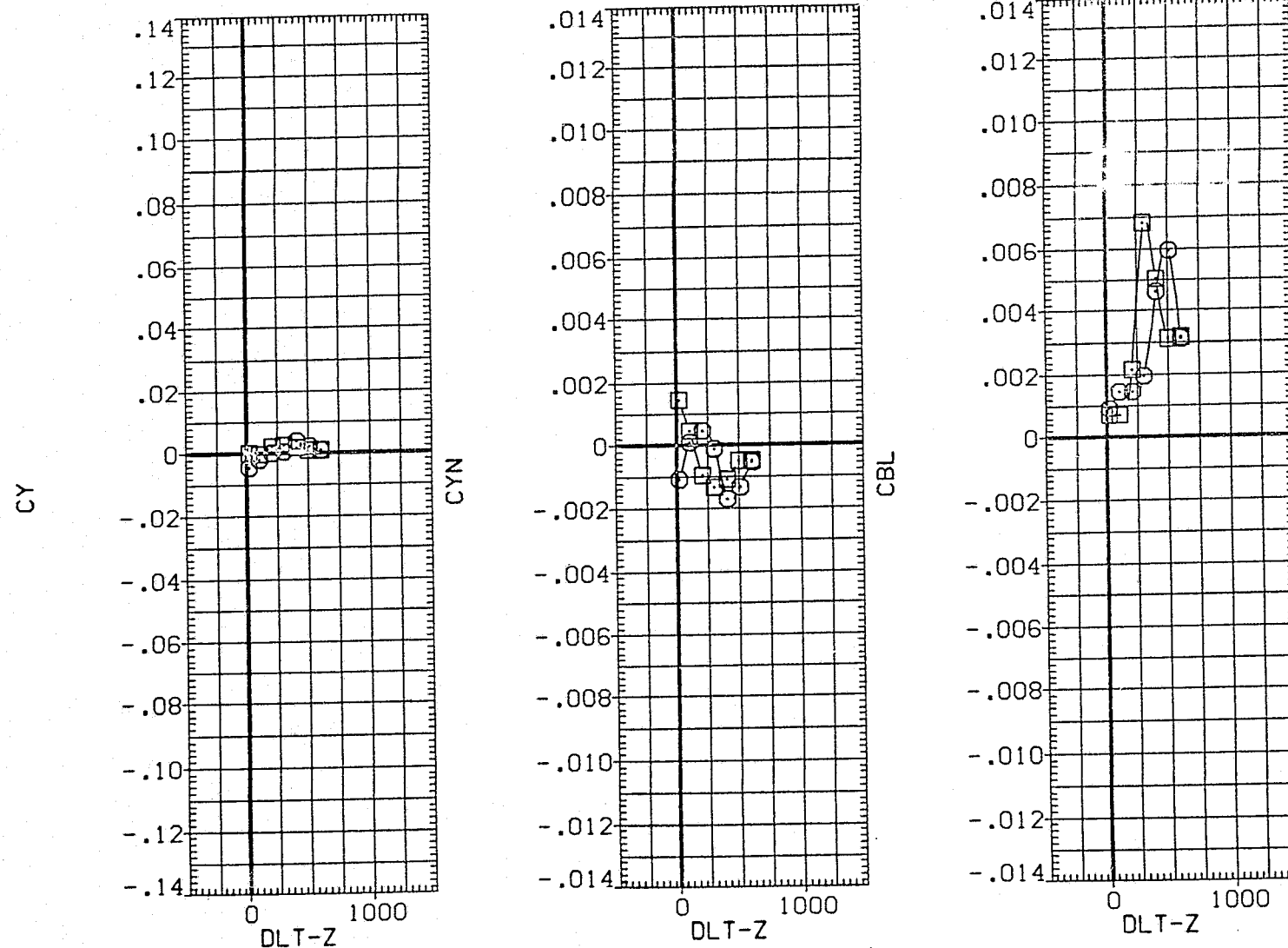


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR301)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.533	BETA	60.000	ALPHA 5.000
□	400.490	DLTBTA	.000	DLTALF -10.000
		AILRON	3.000	MACH 5.930
		GRID	15.000	ELEVON .000
			12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

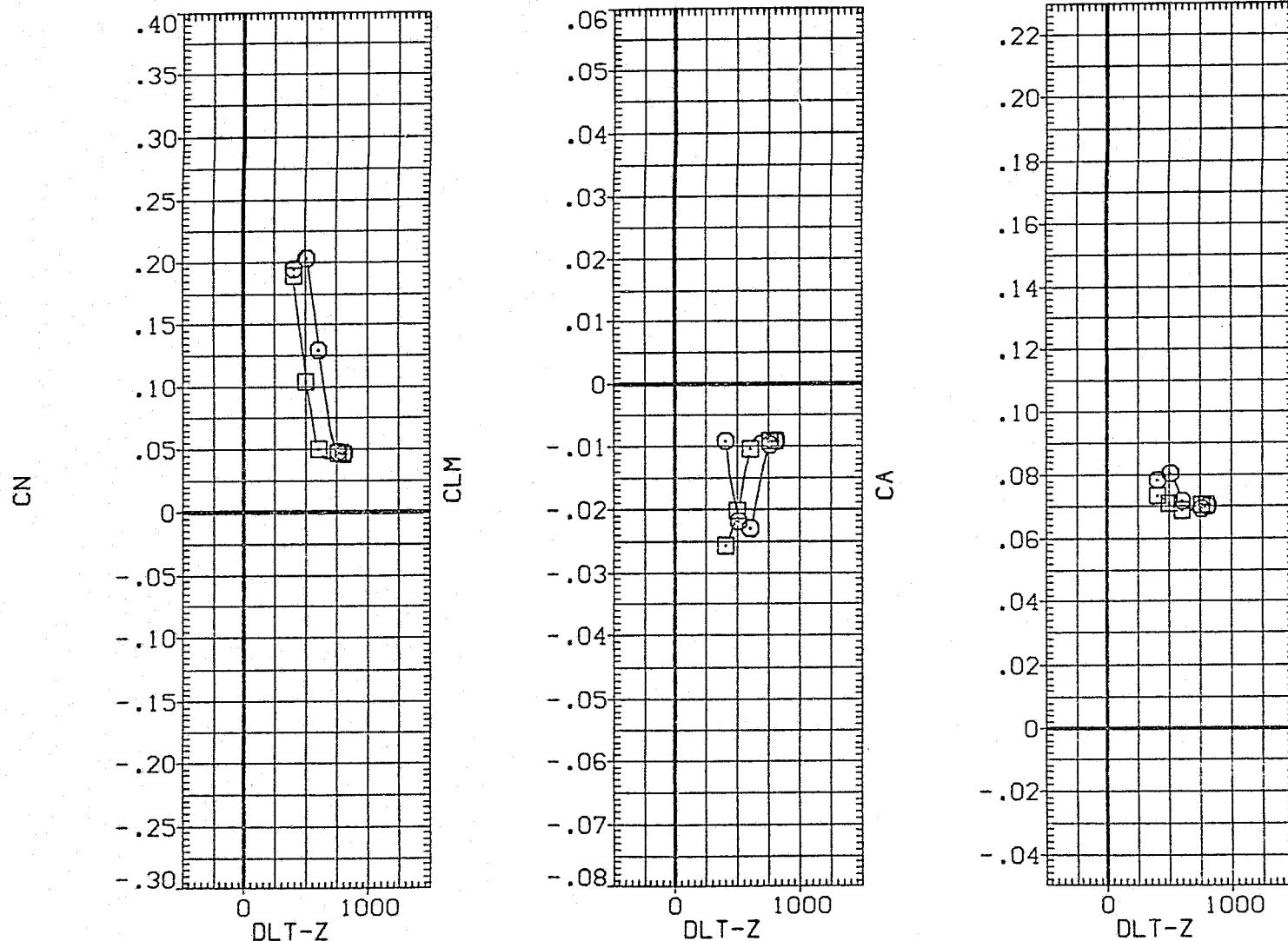


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR301)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.533	60.000	DLTALF	5.000
□	400.490	.000	MACH	-10.000
		DLTBTA	ELEVON	5.930
		AILRON		.000
		GRID		12.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

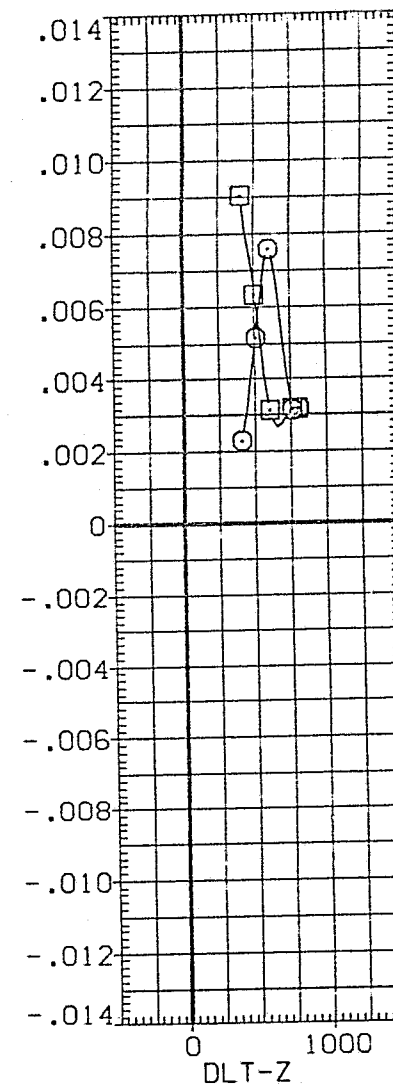
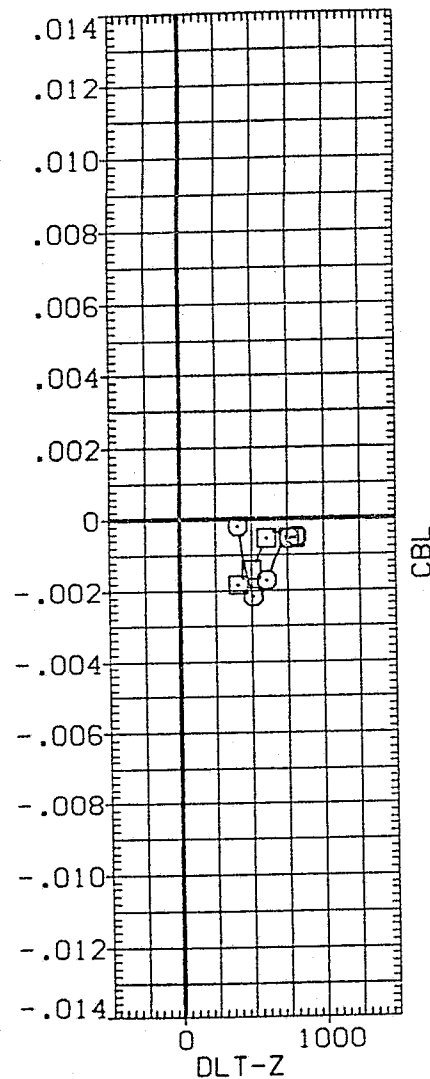
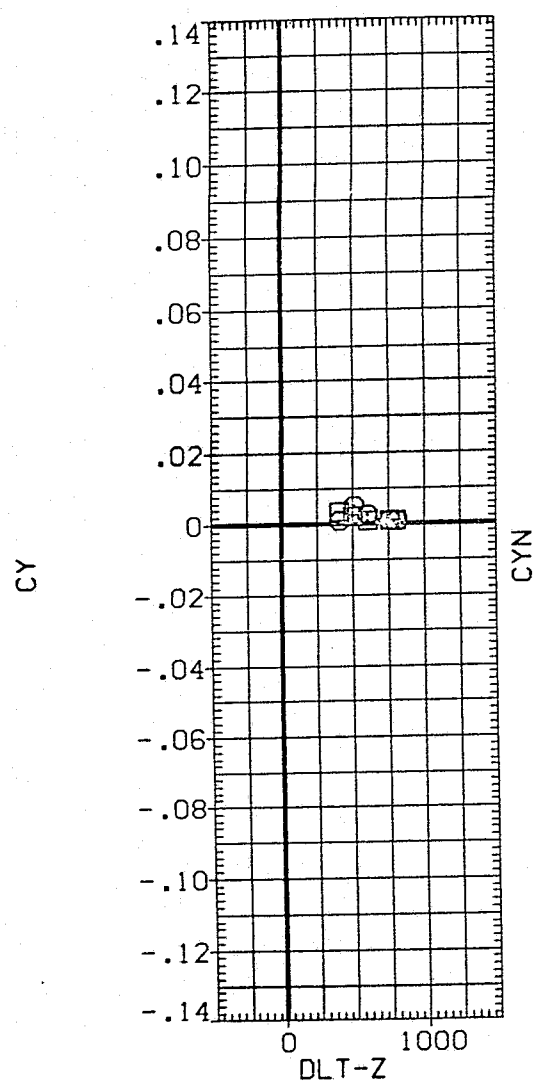


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILRON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR303)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.473	60.000	ALPHA	5.000
□	400.410	.000	DLTALF	-20.000
		3.000	MACH	5.930
		15.000	ELEVON	.000
		GRID	12.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

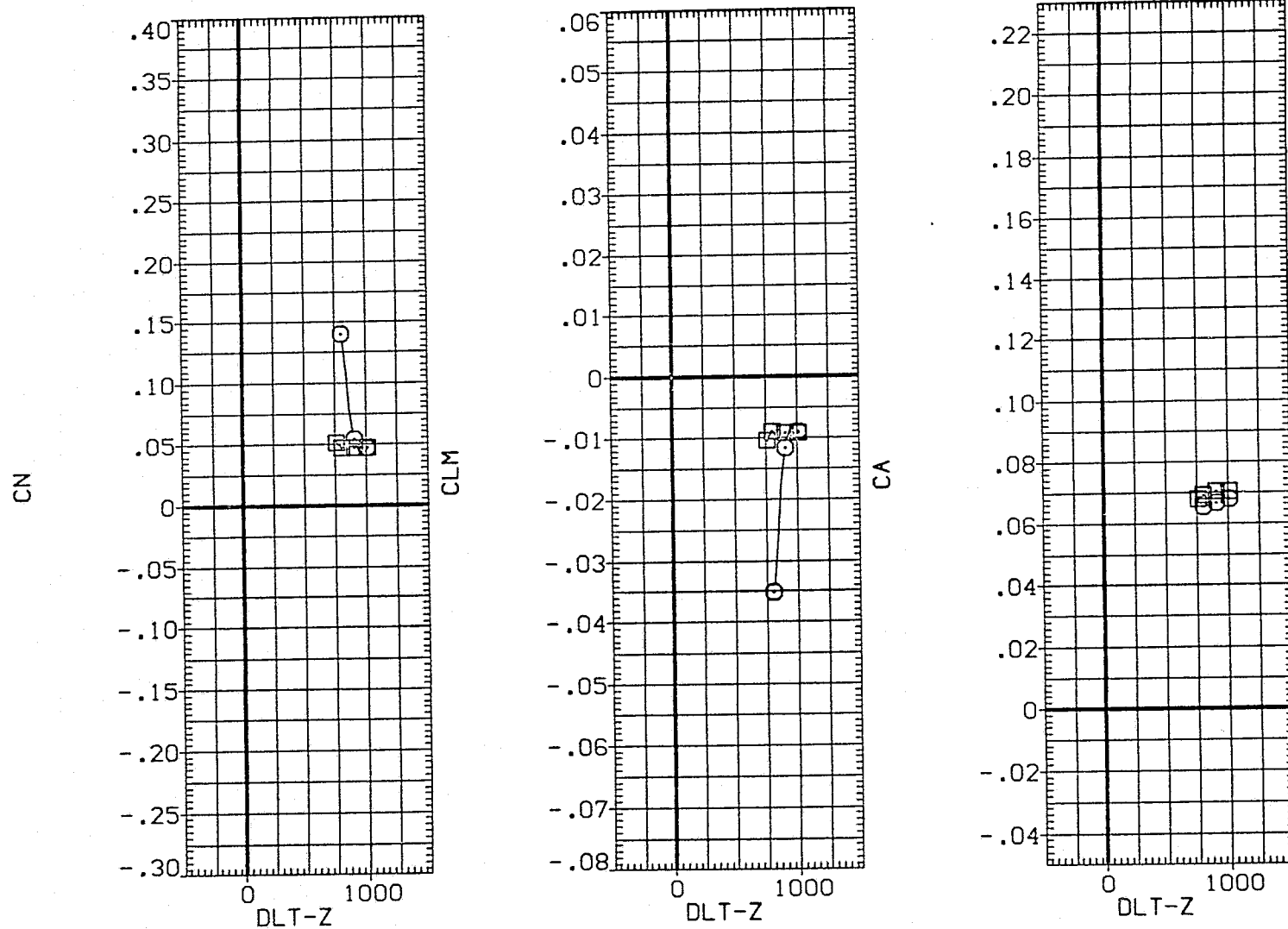


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR303)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	DLT-Y	DLT-Z	DLT-Y	DLT-Z
○	.473	60.000	ALPHA	5.000		
□	400.410	.000	DLTALF	-20.000		
		3.000	MACH	5.930		
		15.000	ELEVON	.000		
		12.000				

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

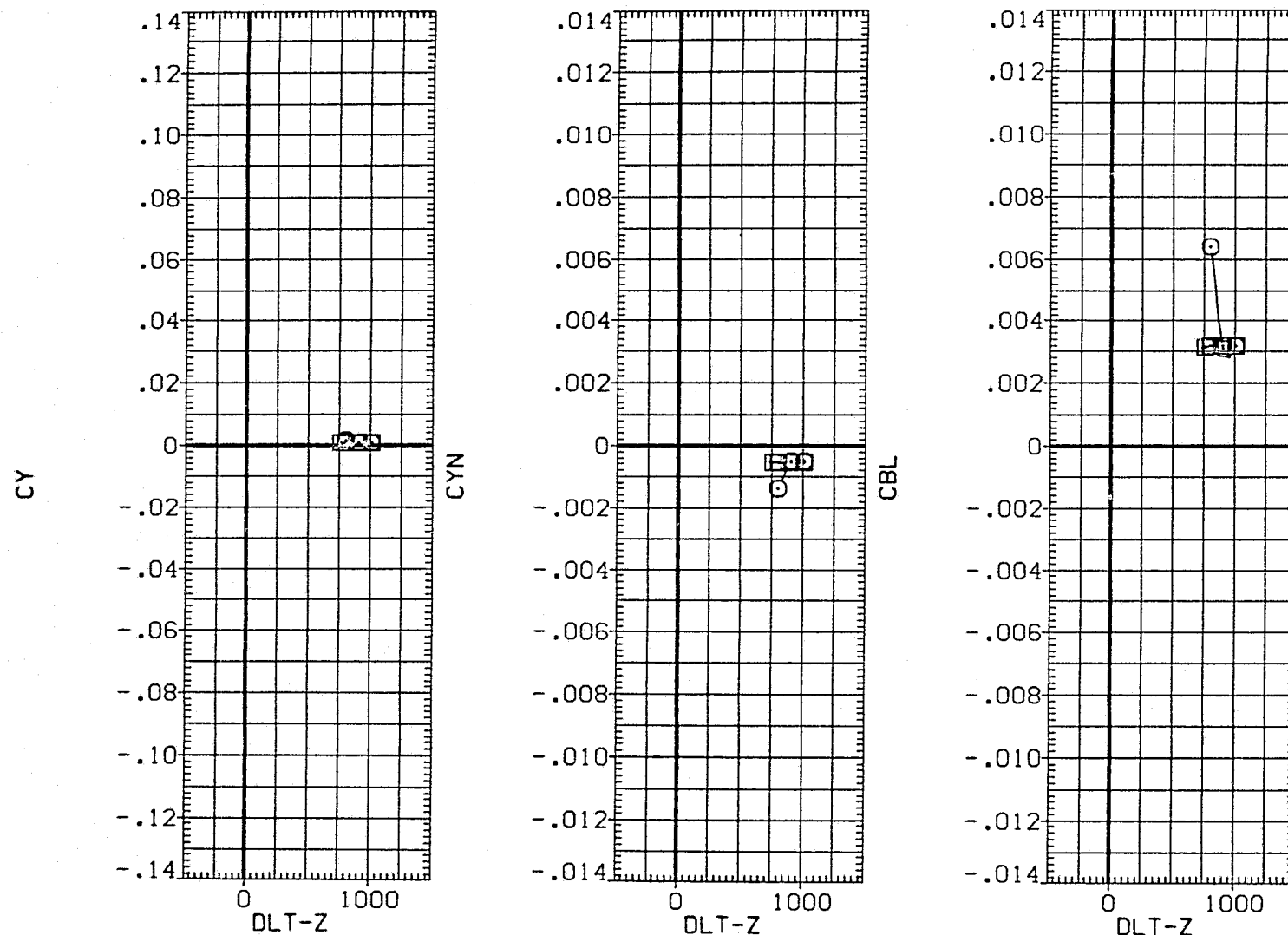


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR304)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.582	60.000	ALPHA -5.000
□	400.440	BETA .000	DLTALF .000
		DLTBTA 3.000	MACH 5.930
		AILRON 15.000	ELEVON .000
		GRID 11.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

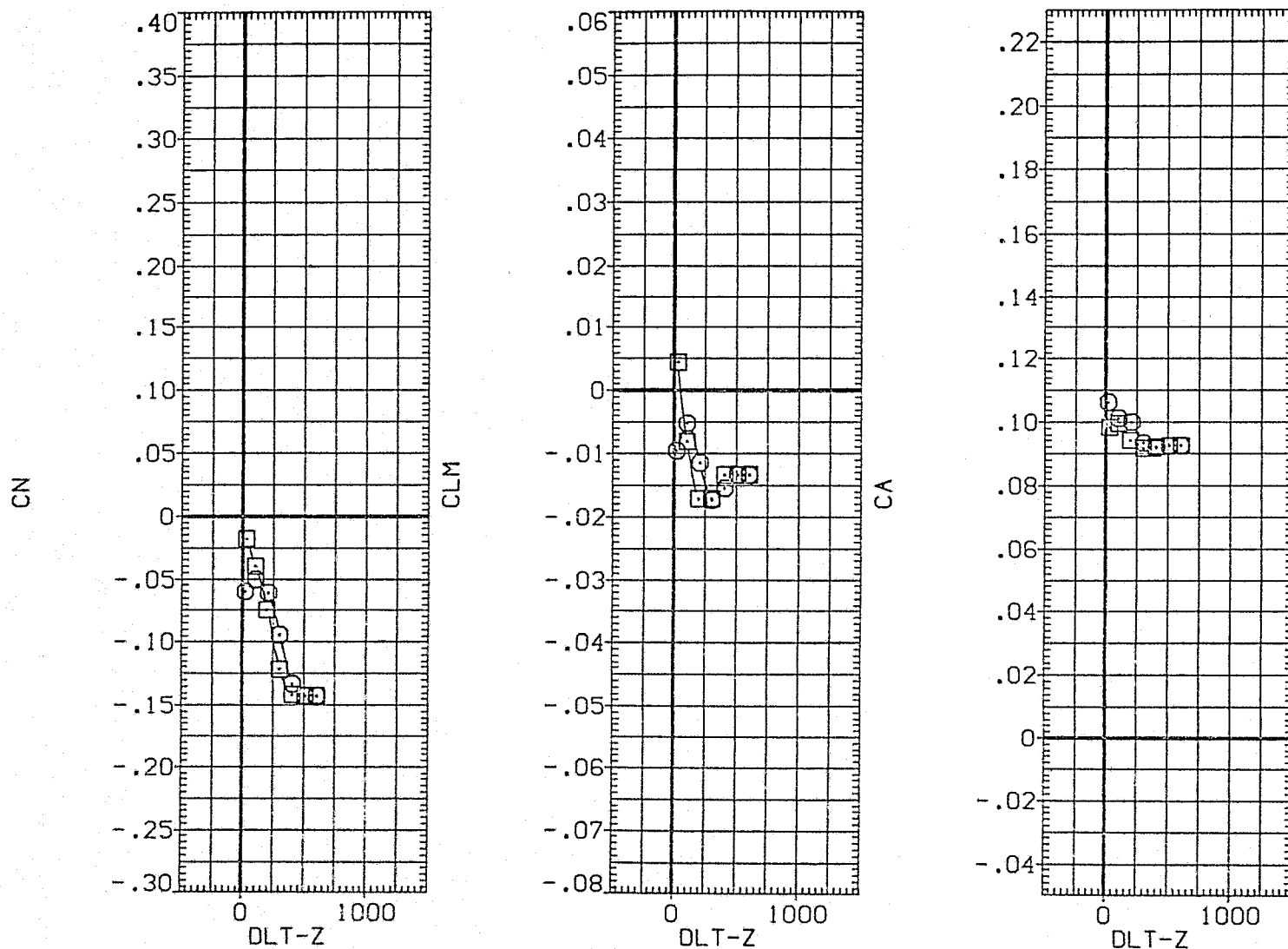


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR304)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.582	60.000	ALPHA	-5.000
□	400.440	.000	DLTALF	.000
		3.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

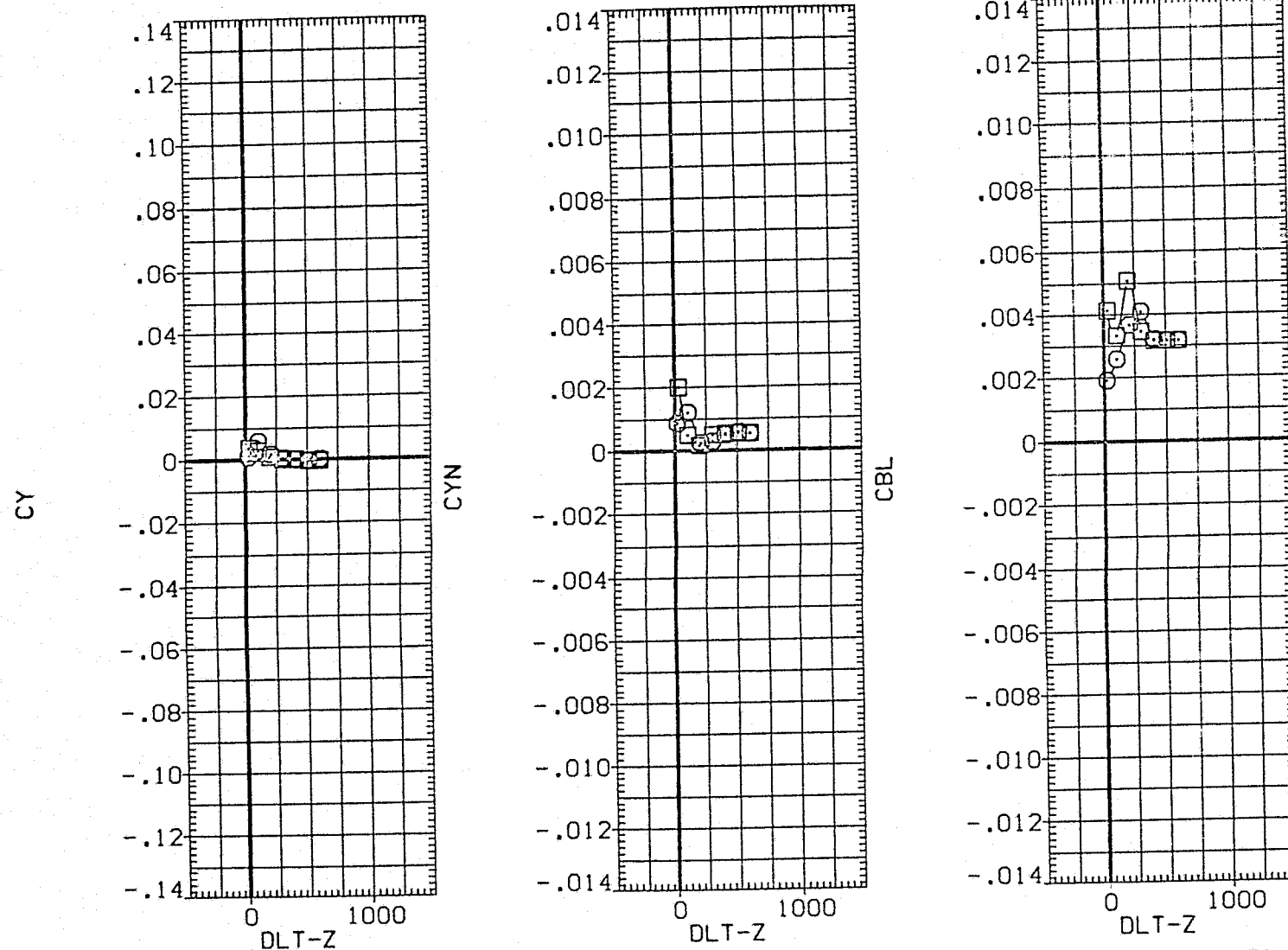


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR305)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.434	60.000	ALPHA	-5.000
□	400.510	.000	DLTALF	-10.000
		3.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

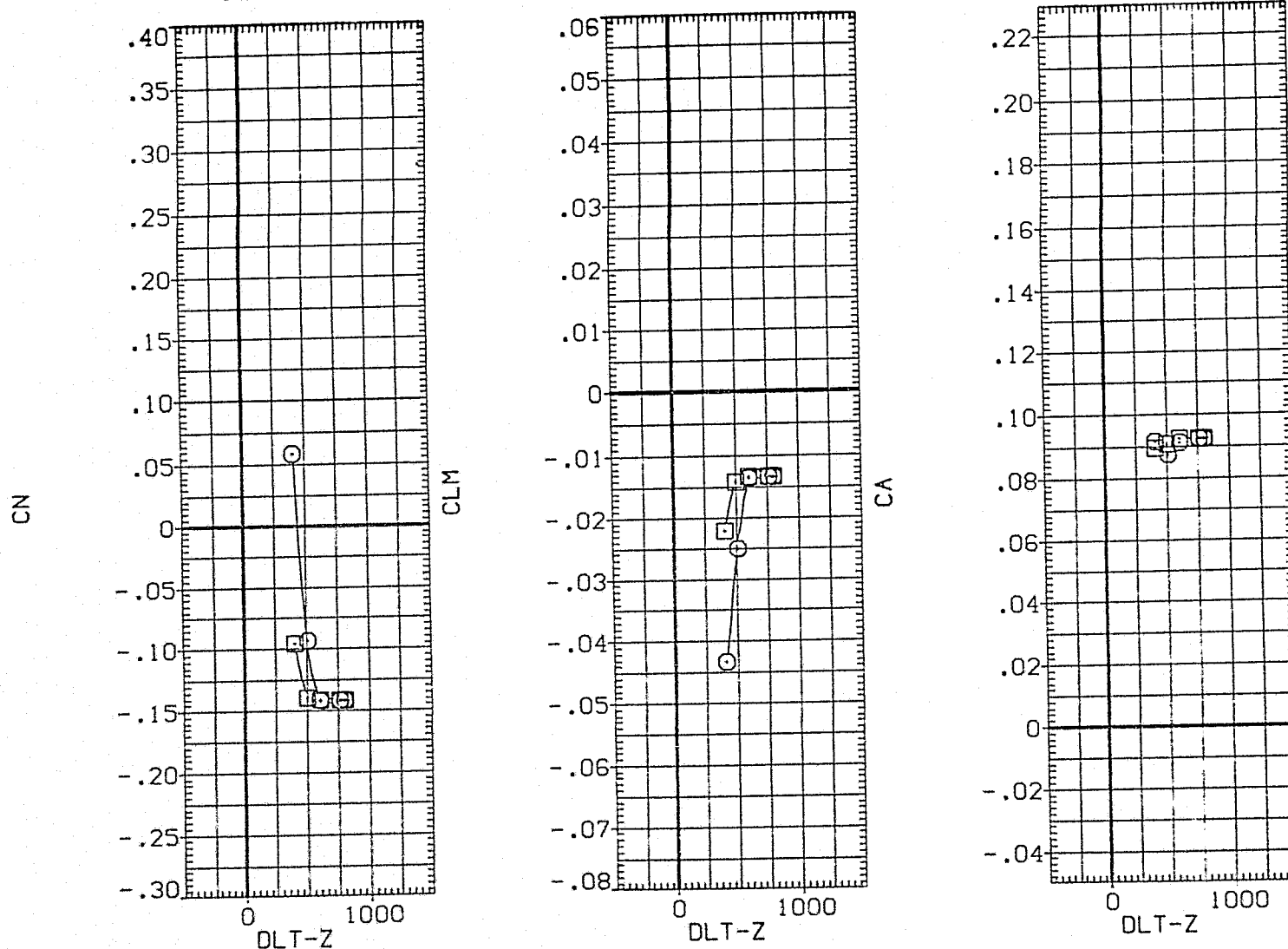


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR305)

SYMBOL
○
□

DLT-X
.434
400.510

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
60.000
.000
3.000
15.000
11.000

ALPHA
DLTALF
MACH
ELEVON

-5.000
-10.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1099.6000	IN. X0
YMRP	.0300	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

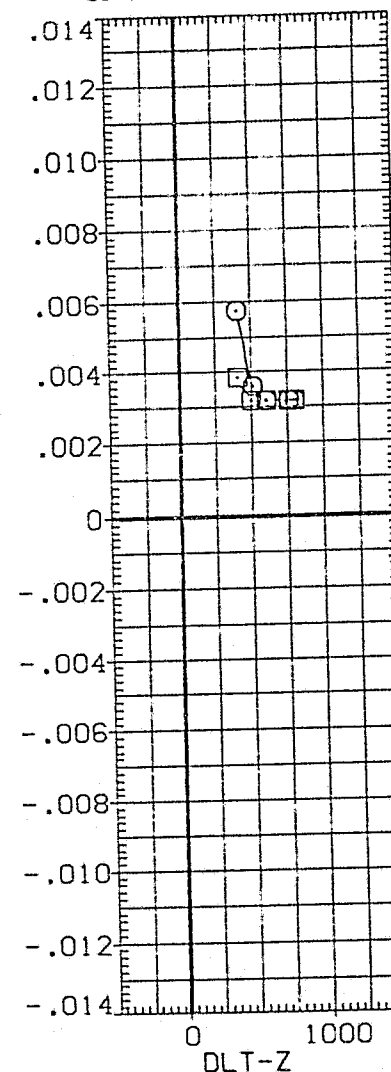
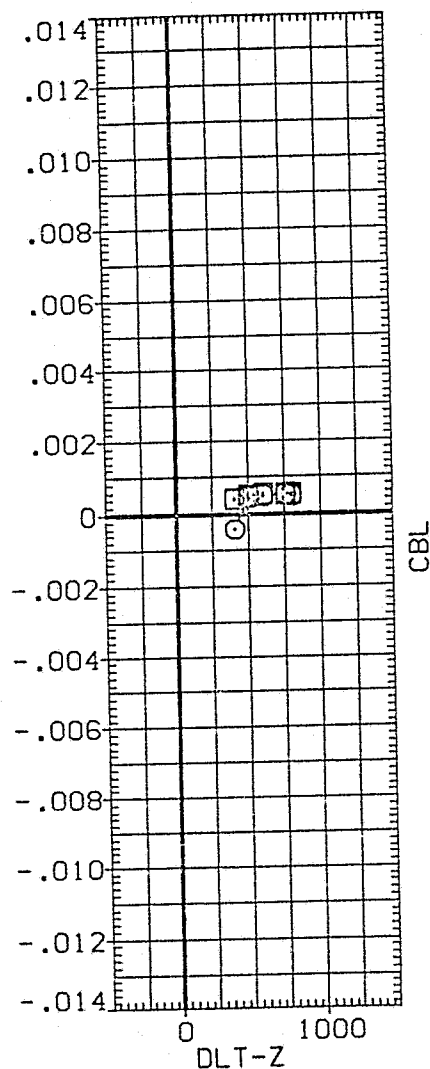
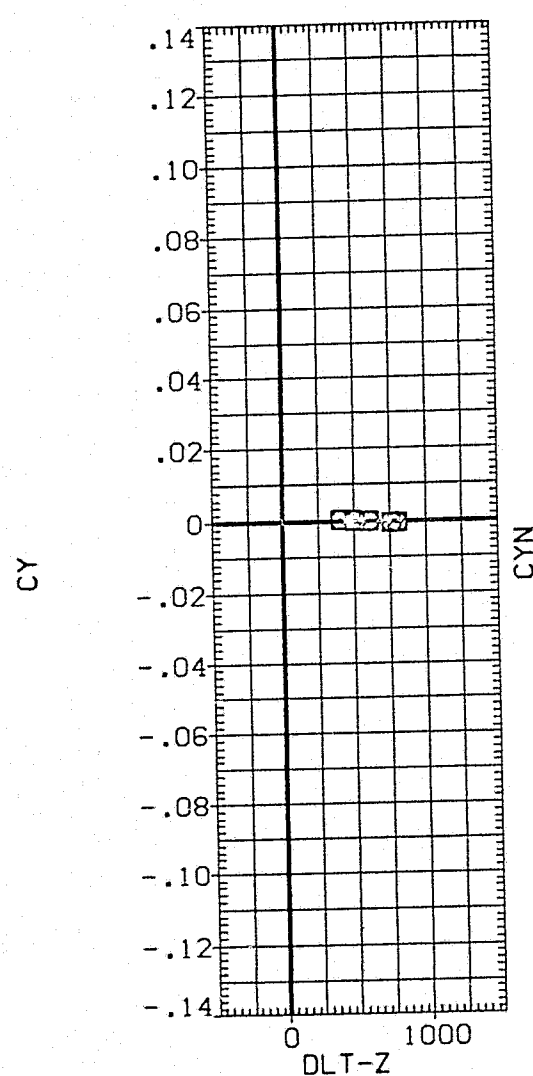


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR307)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.481	60.000	ALPHA	-5.000
□	400.490	BETA .000	DLTALF	-20.000
		DLTBTA 3.000	MACH	5.930
		AILRON 15.000	ELEVON	.000
		GRID 11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

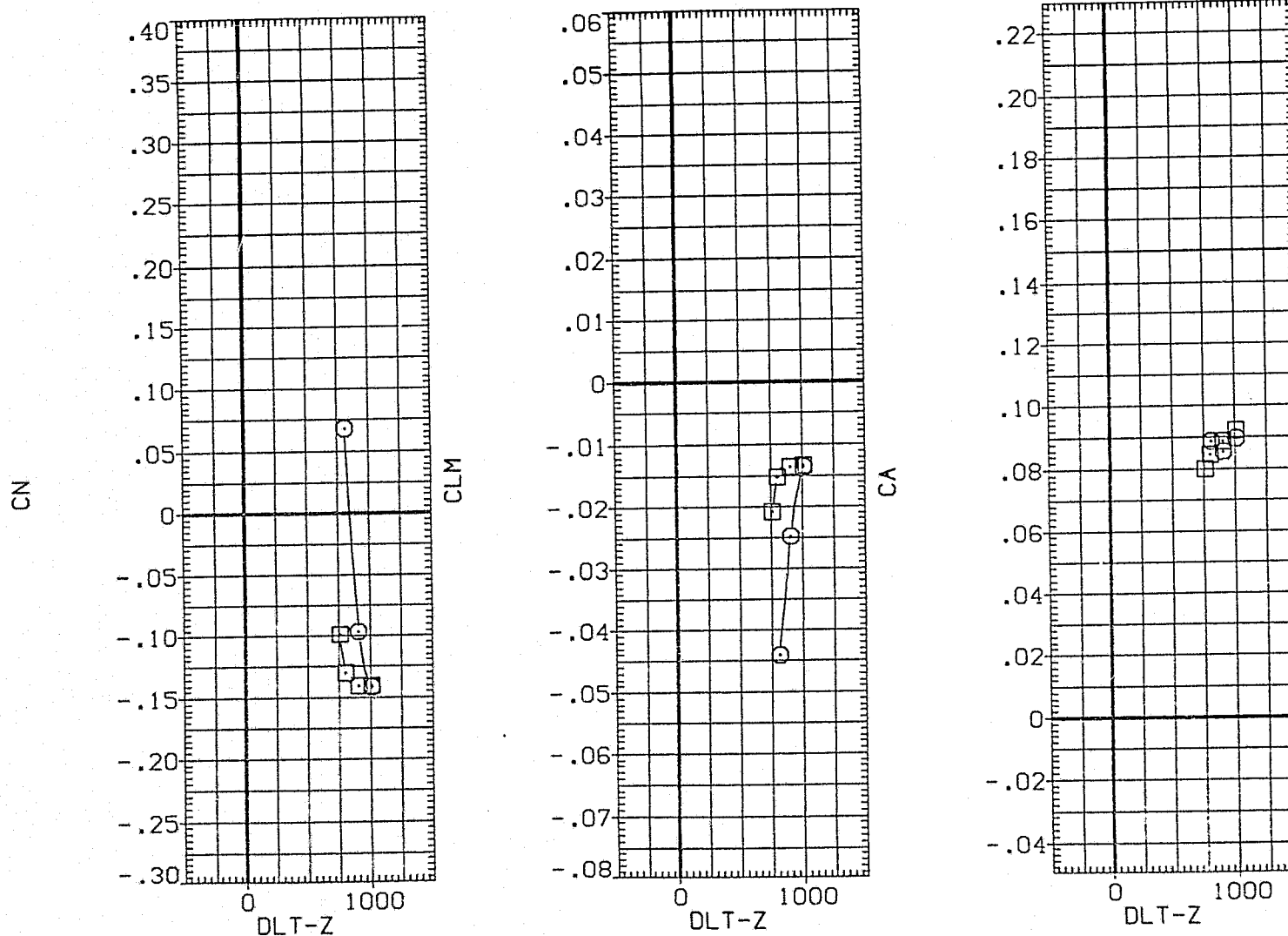


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR307)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.481	60.000	ALPHA	-5.000
□	400.490	.000	DLTALF	-20.000
		3.000	MACH	5.930
		15.000	ELEVON	.000
		11.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

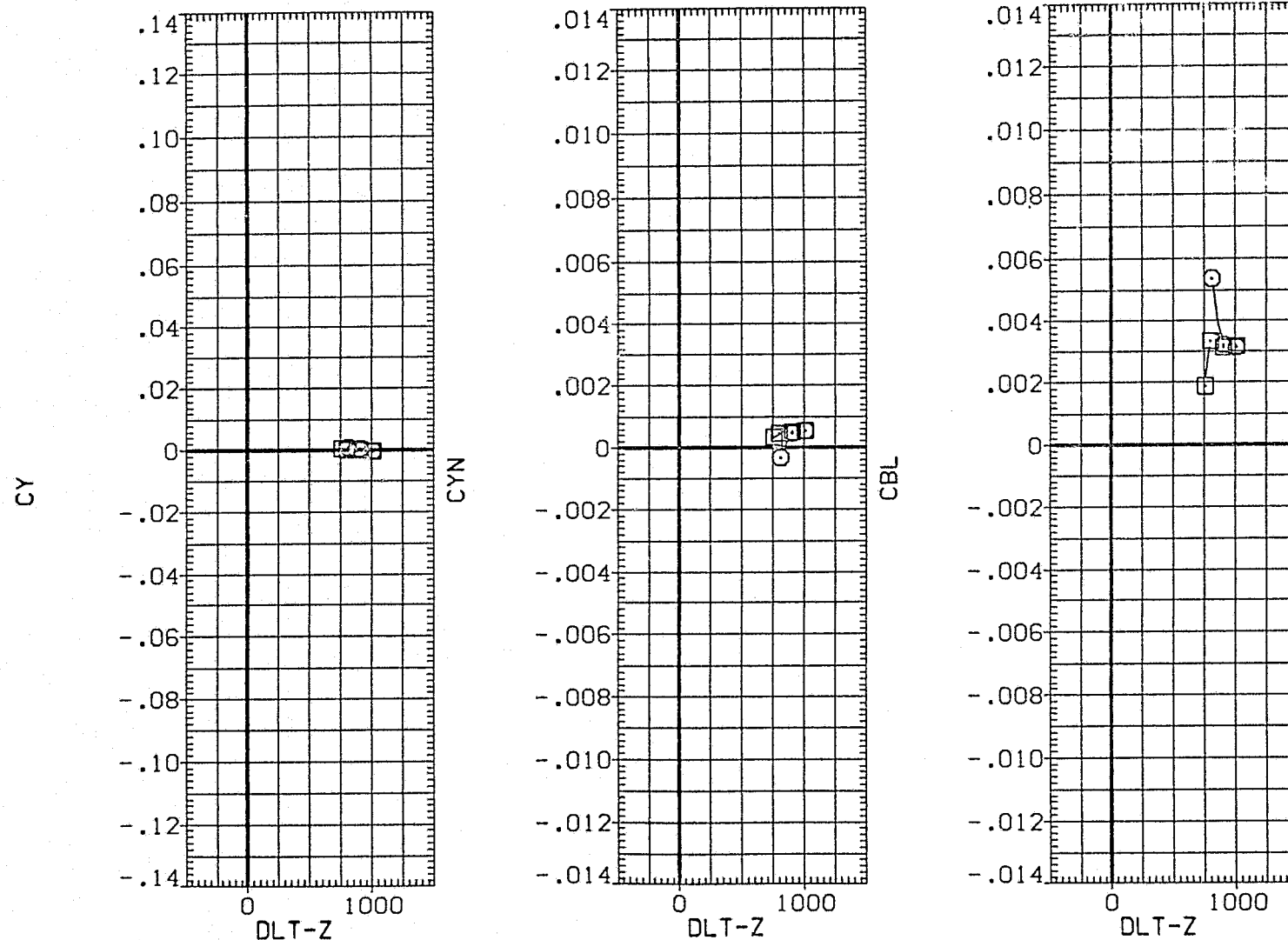


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR308)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.395		60.000	-10.000		
□	400.480		.000	.000	5.930	.000
			3.000			
			15.000			
			10.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

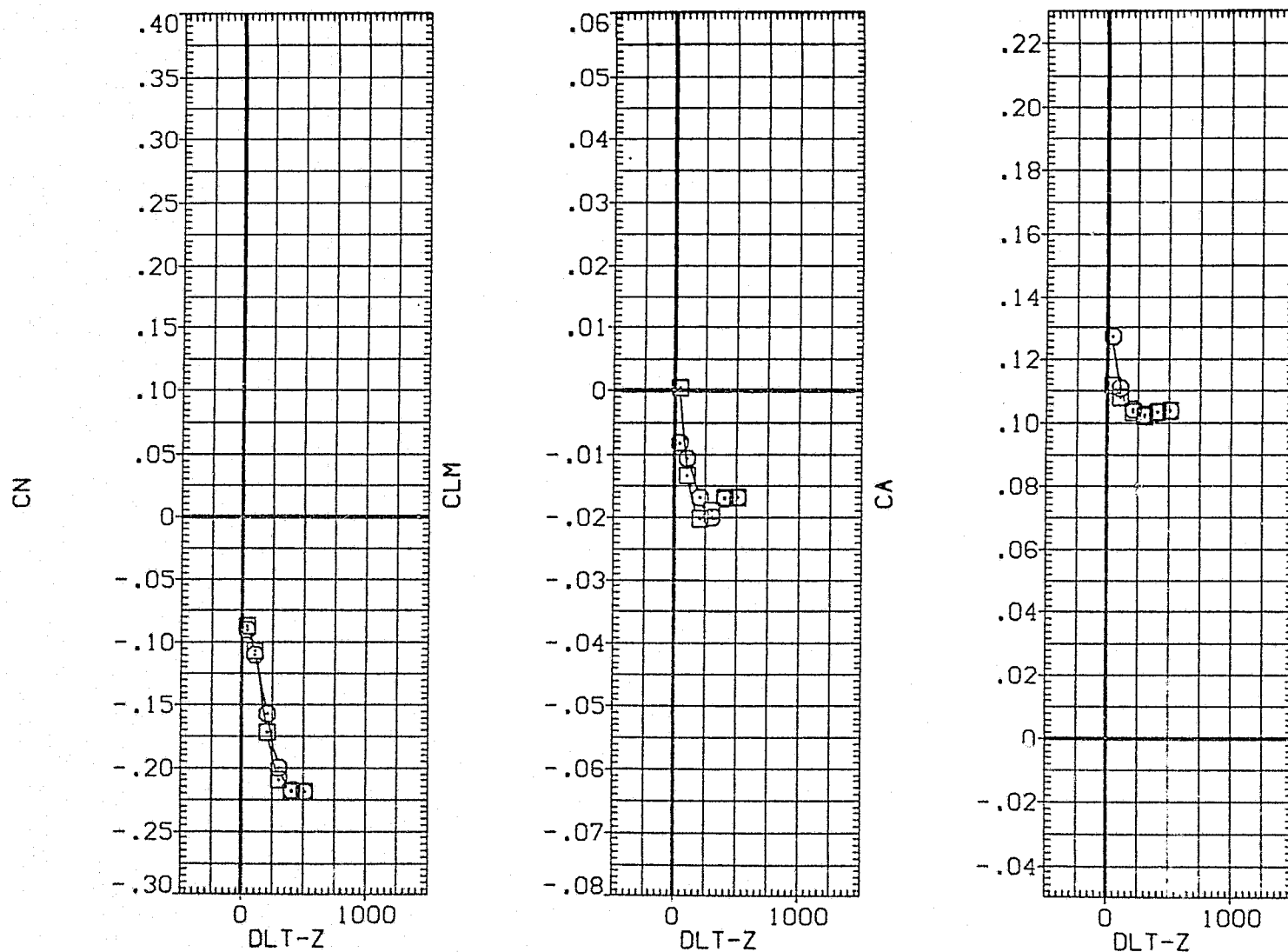


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR308)

SYMBOL
○
□

DLT-X
.395
400.480

DLT-Y
60.000
BETA
DLTBT
AILRON
GRID

PARAMETRIC VALUES
60.000
.000
3.000
15.000
10.000

ALPHA
DLTALF
MACH
ELEVON

-10.000
.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

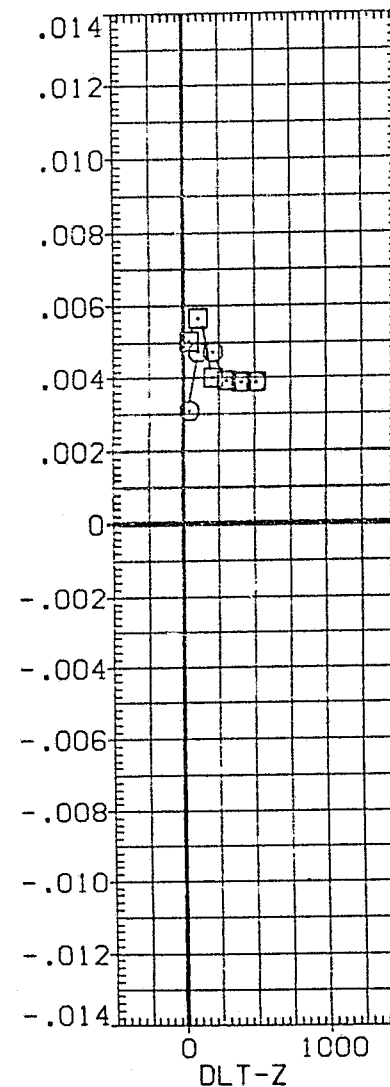
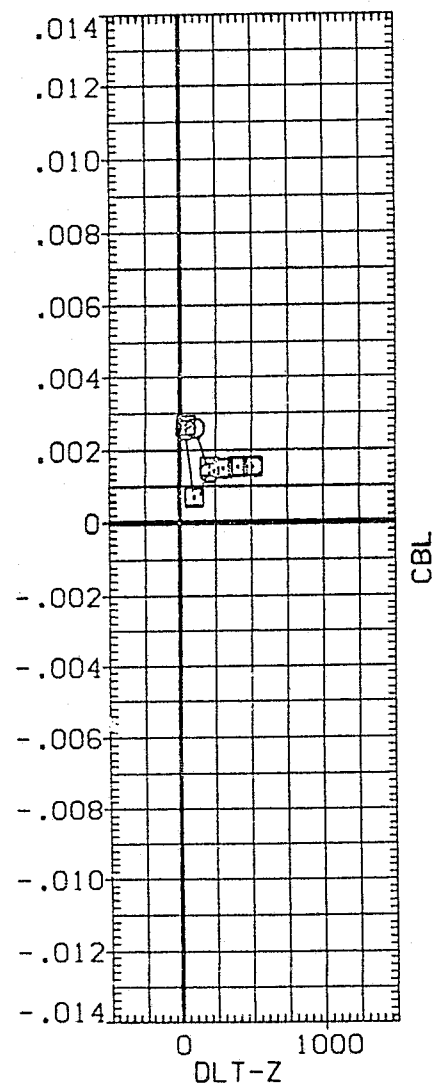
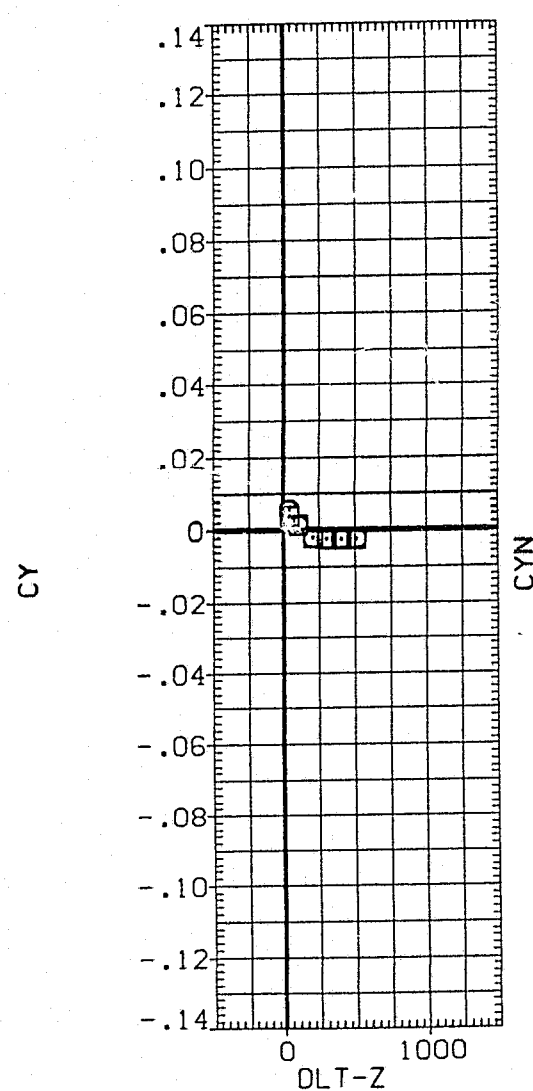


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR309)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.476	60.000	DLTALF	-10.000	
□	400.460	.000	MACH	5.930	
		3.000	ELEVON	.000	
		15.000			
		10.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

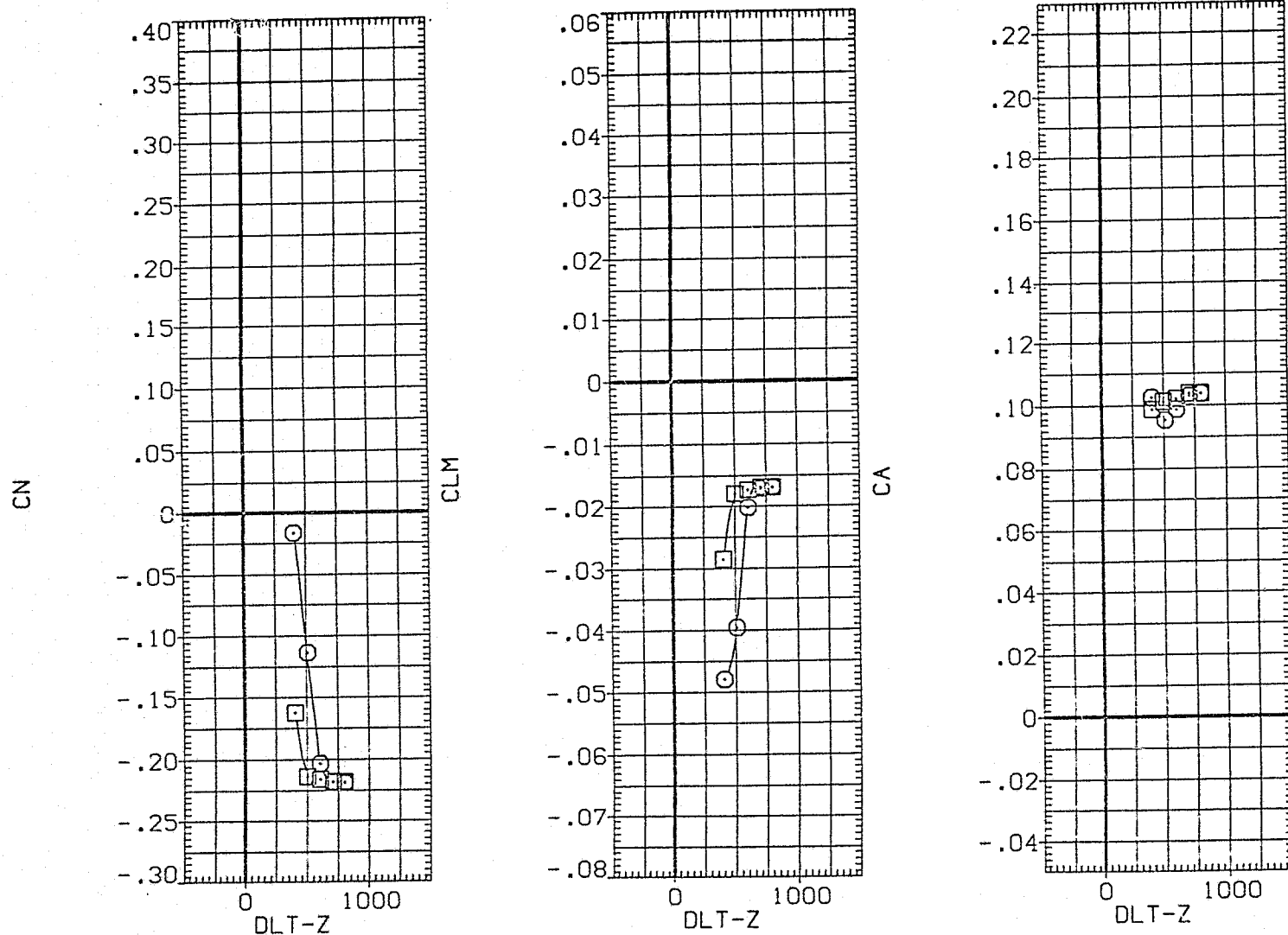


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR309)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.476	60.000	DLTALF	-10.000
□	400.460	.000	MACH	5.930
		3.000	ELEVON	.000
		15.000		
		10.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

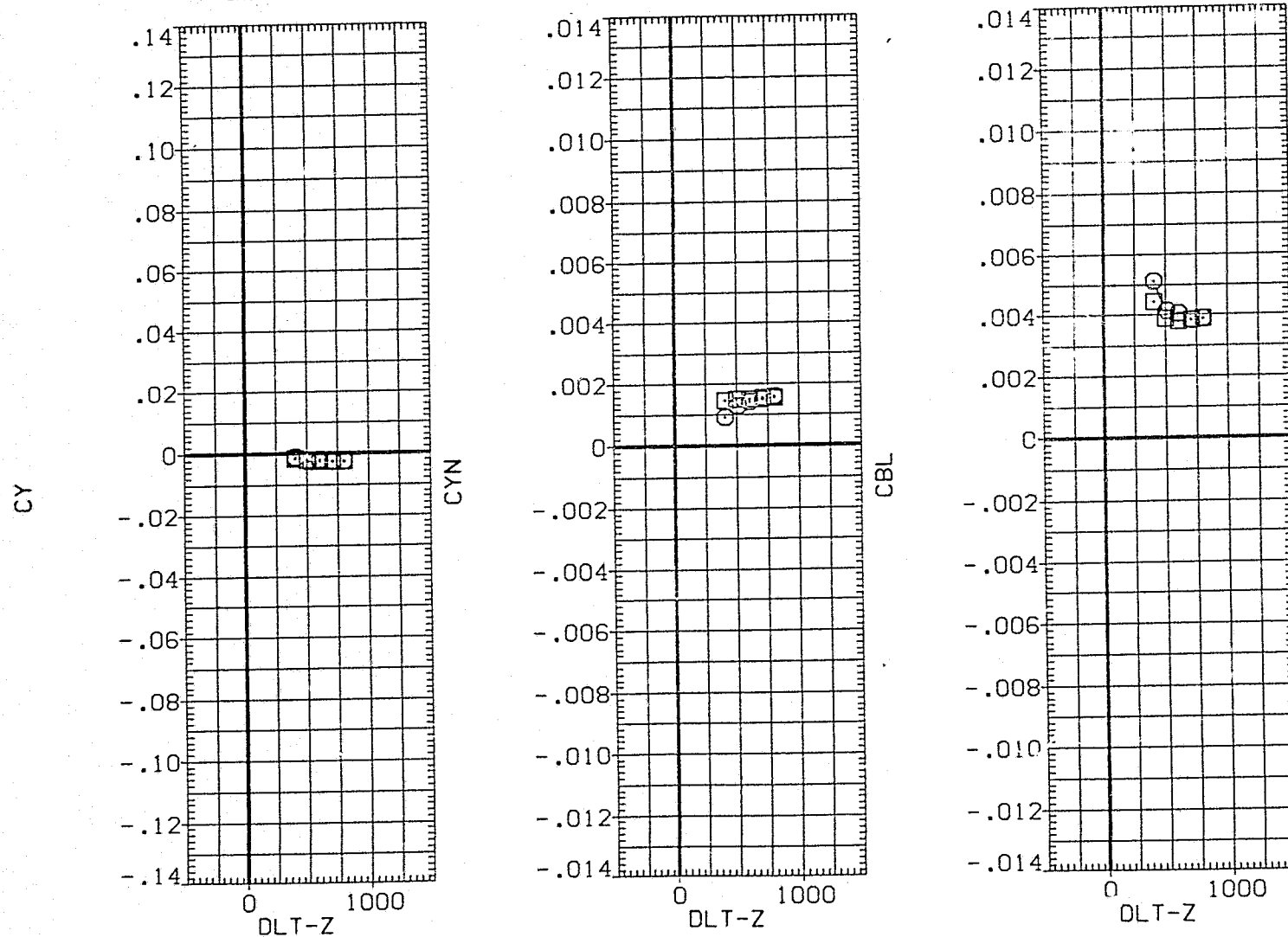


FIGURE 17 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 5.93,AILERON= 15)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR335)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.442	DLT-Y	60.000	ALPHA	.000
□	200.540	BETA	.000	DLTALF	.000
		DLTBT	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	16.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

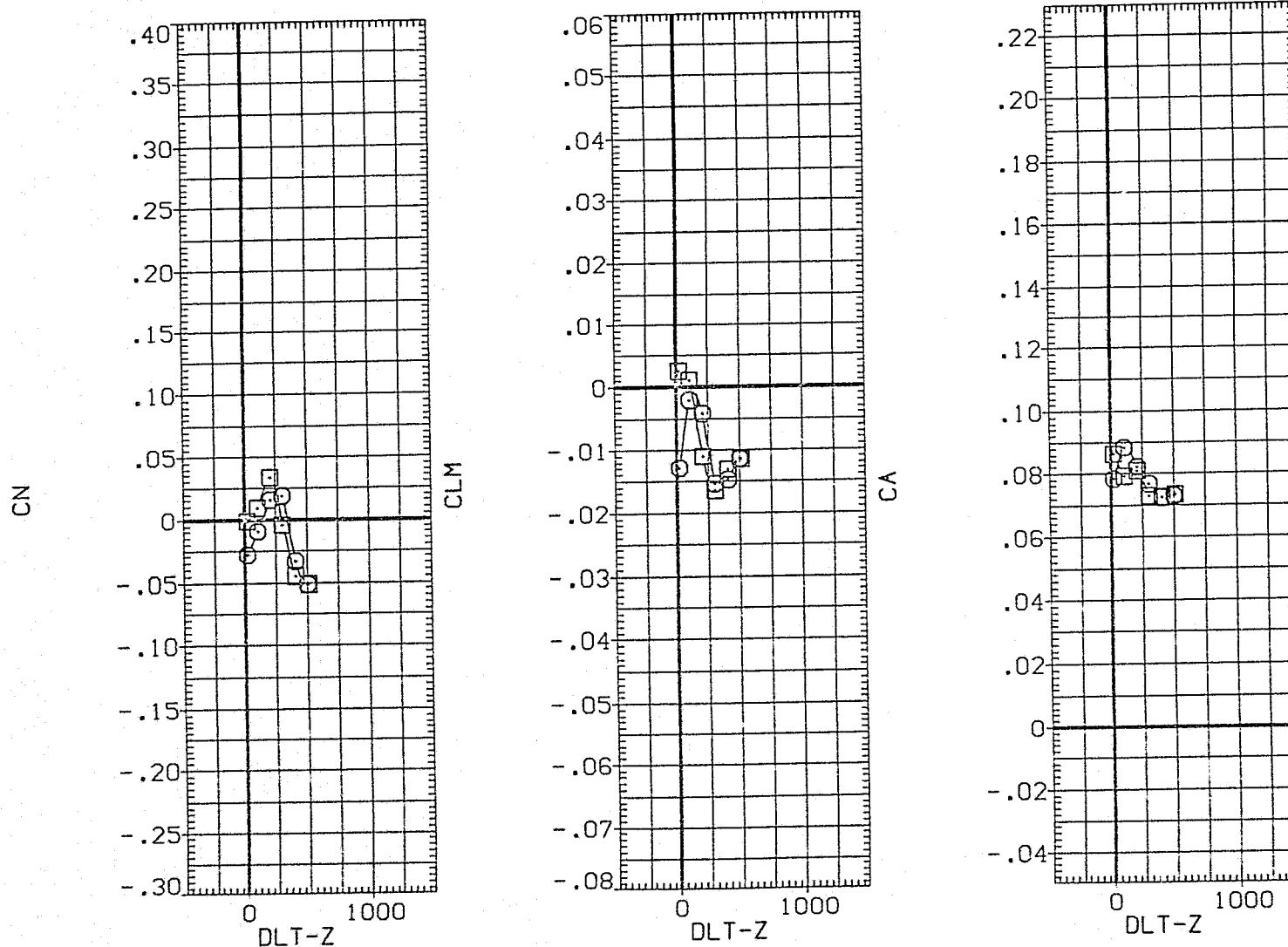


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR335)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.442	60.000	ALPHA	.000
□	200.540	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		16.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

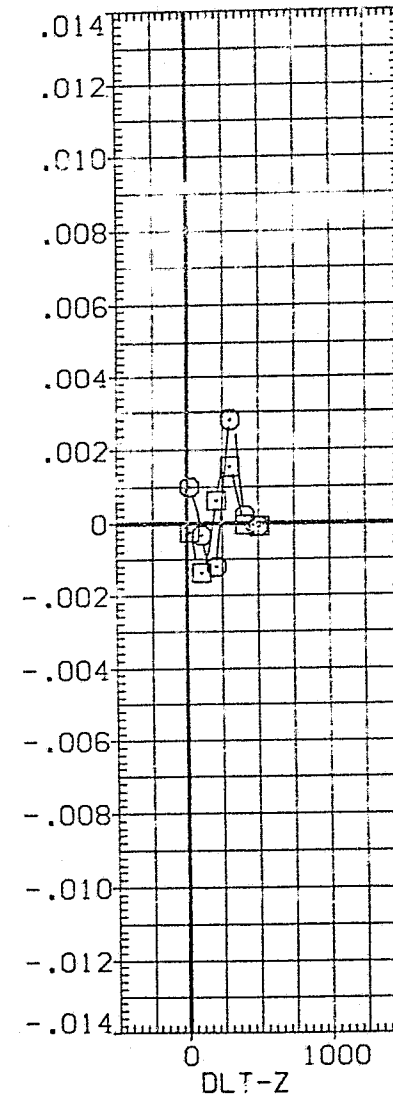
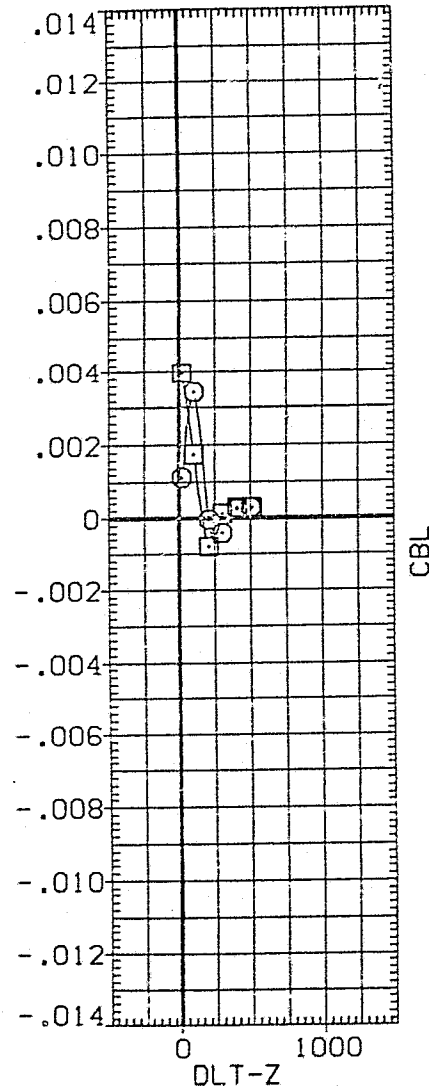
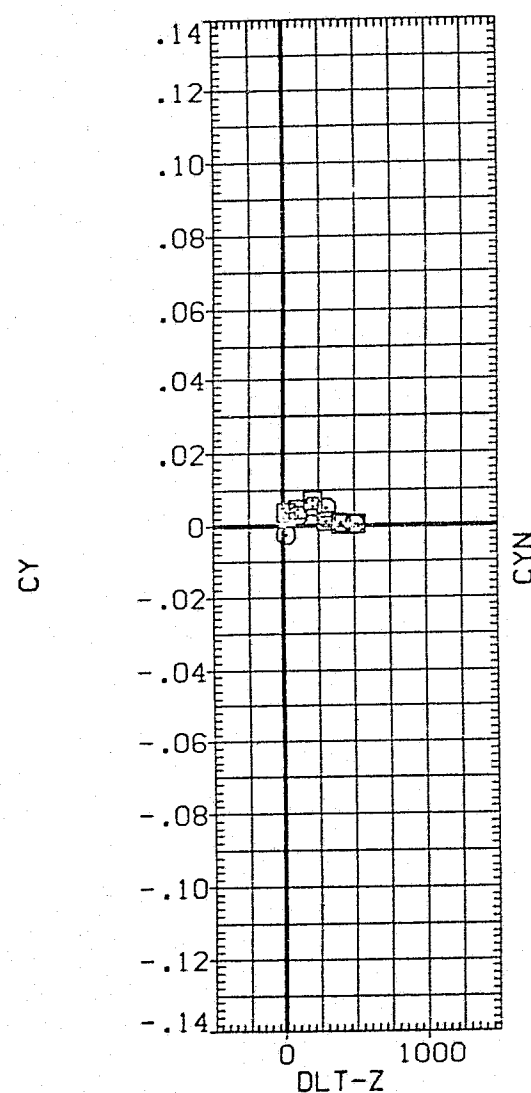


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR336)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.505	60.000	BETA	.000
□	200.390	.000	DLTALF	-10.000
◇	400.470	.000	MACH	7.980
		.000	ELEVON	.000
		.000	P0	420.000
		16.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

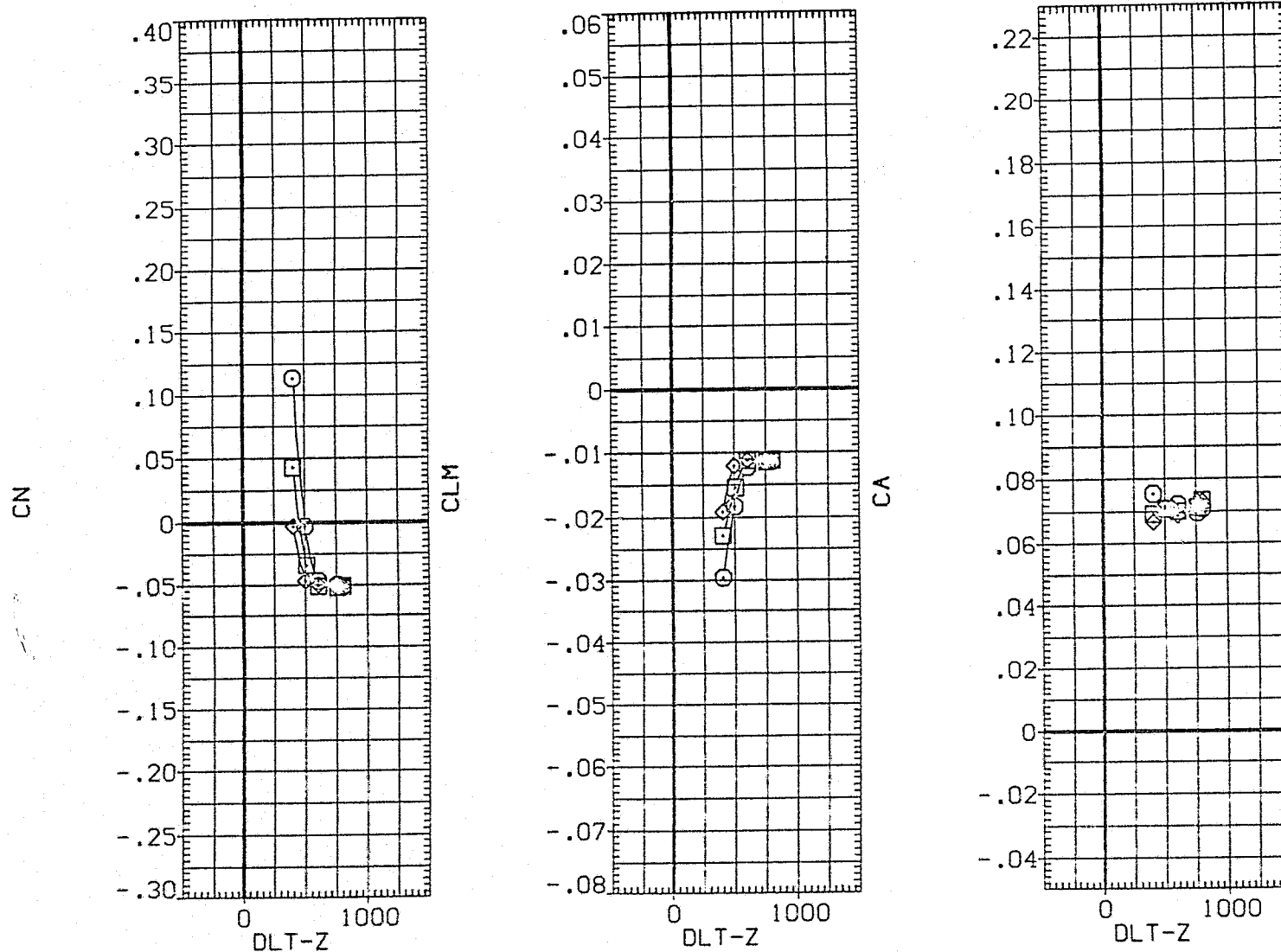


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR336)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.505	60.000	ALPHA	.000
□	200.390	.000	DLTALF	-10.000
◇	400.470	.000	MACH	7.980
		.000	ELEVON	.000
		16.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

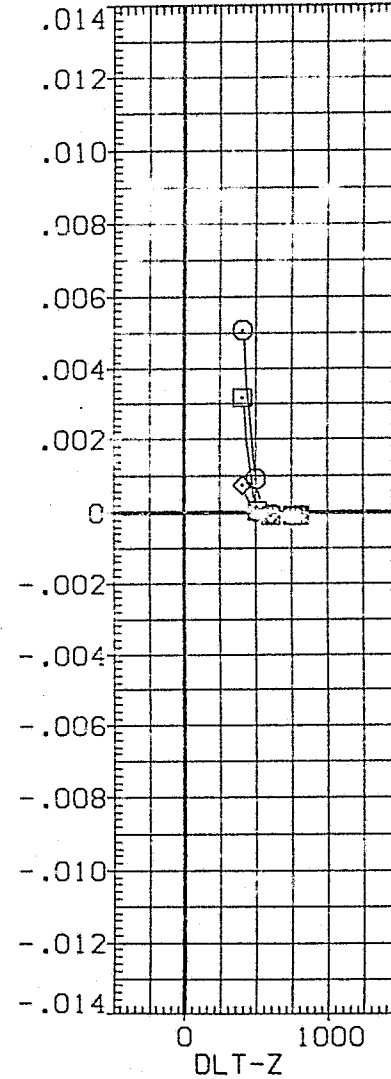
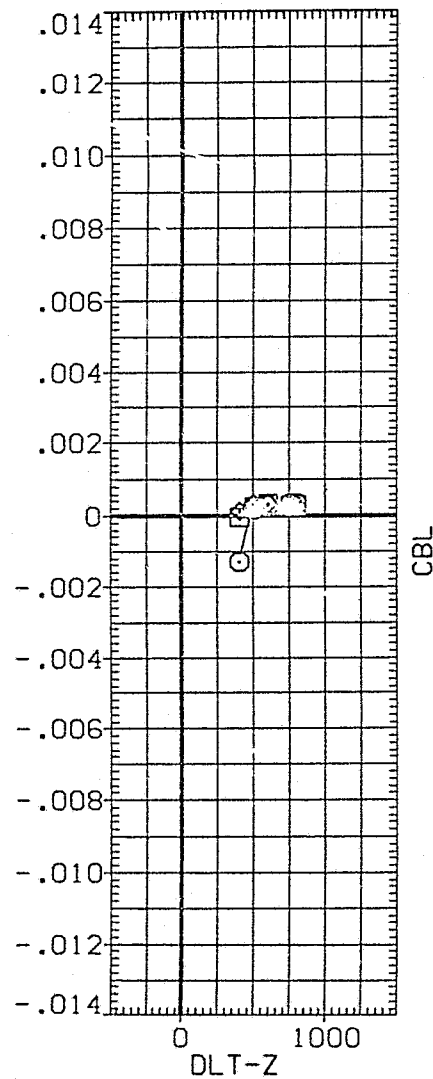
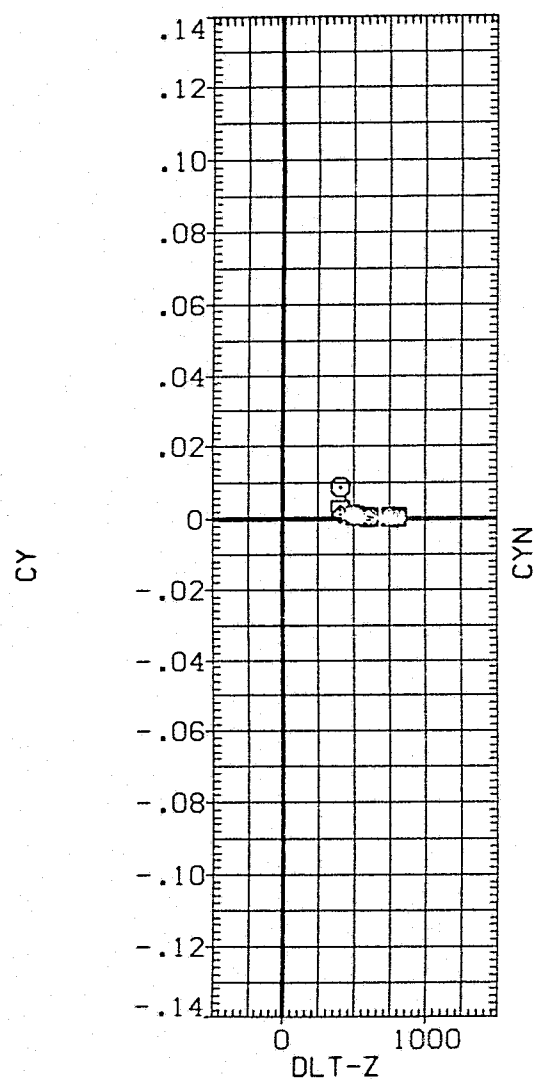


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR338)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.443		60.000	ALPHA	.000
□	200.460	BETA	.000	DLTALF	-20.000
◇	400.280	DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	16.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

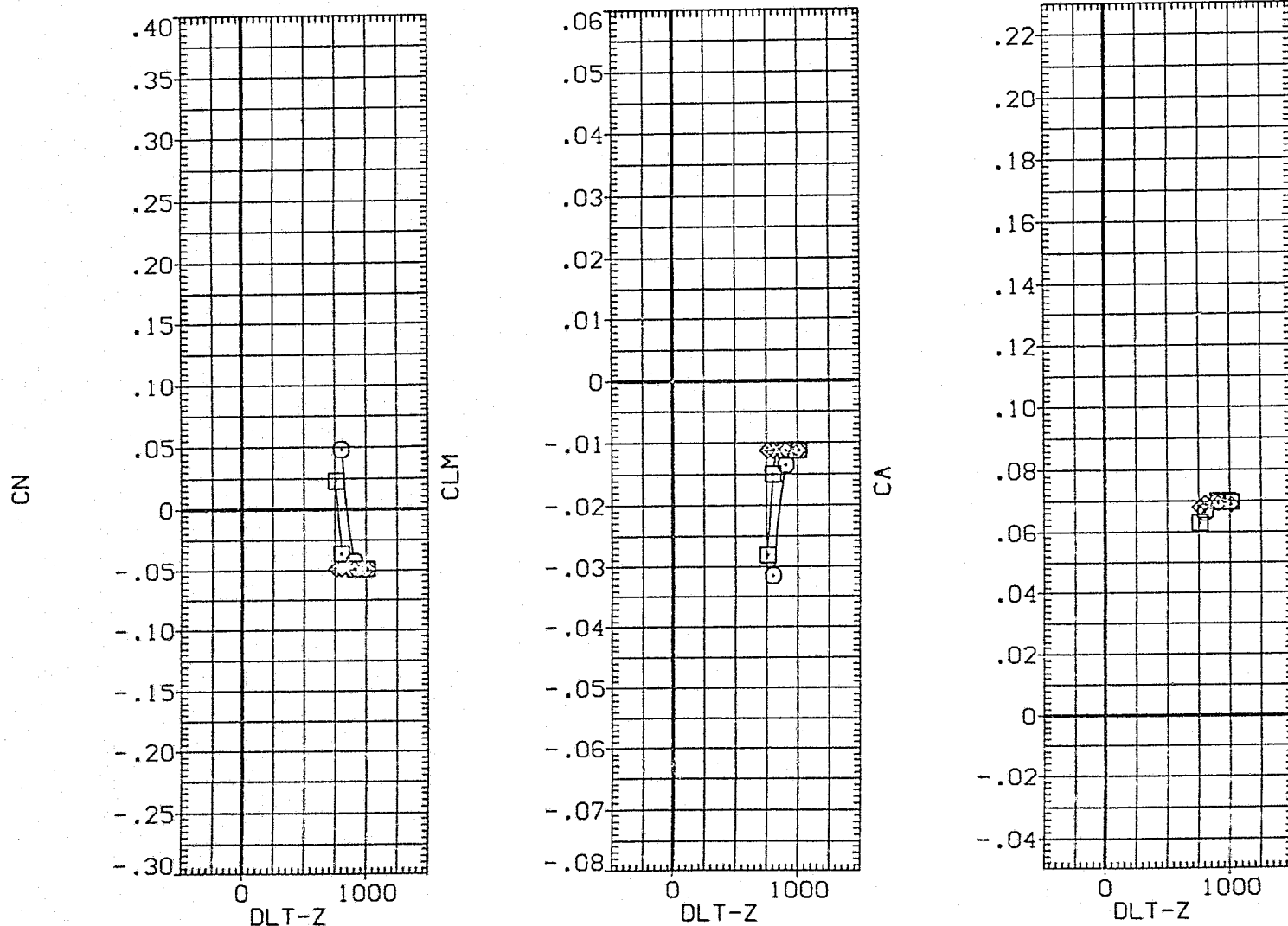


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR338)

SYMBOL



DLT-X

.443

DLT-Y

200.460

DLTBT

400.280

AILRON

GRID

PARAMETRIC VALUES

60.000

.000

.000

.000

.000

16.000

ALPHA

DLTALF

MACH

ELEVON

P0

.000

-20.000

7.980

.000

420.000

REFERENCE INFORMATION

SREF	2590.0000	SO, FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

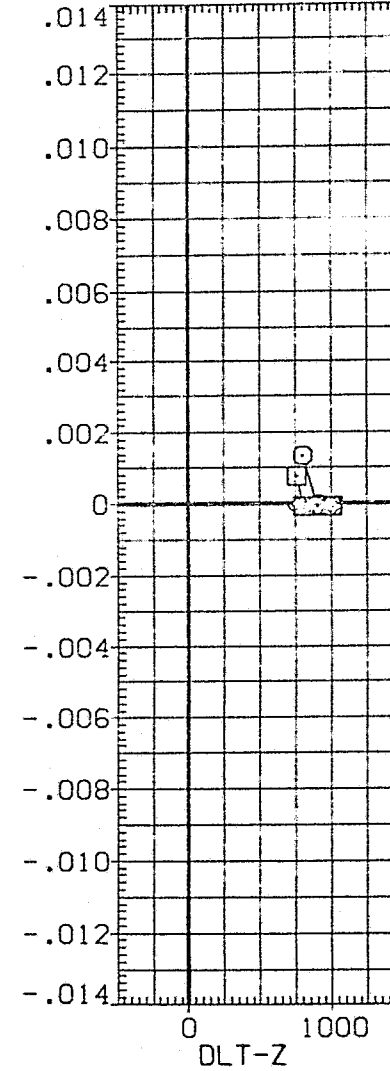
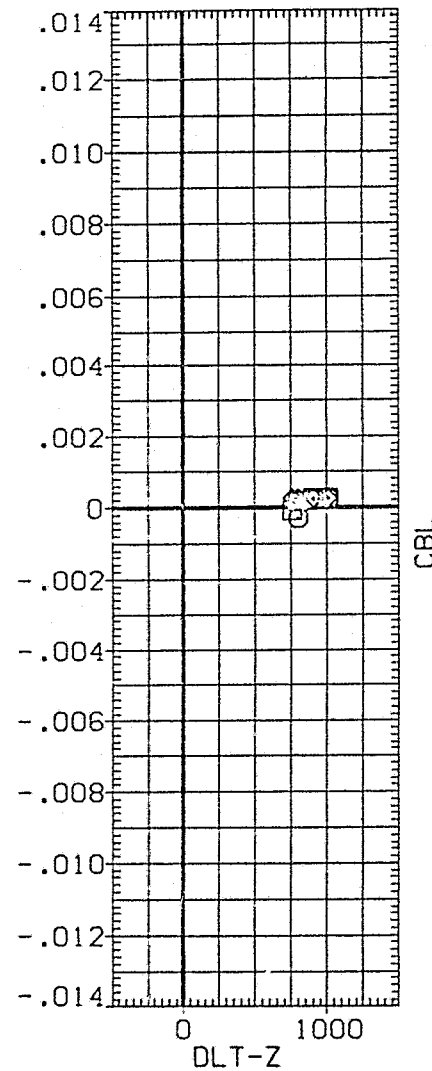
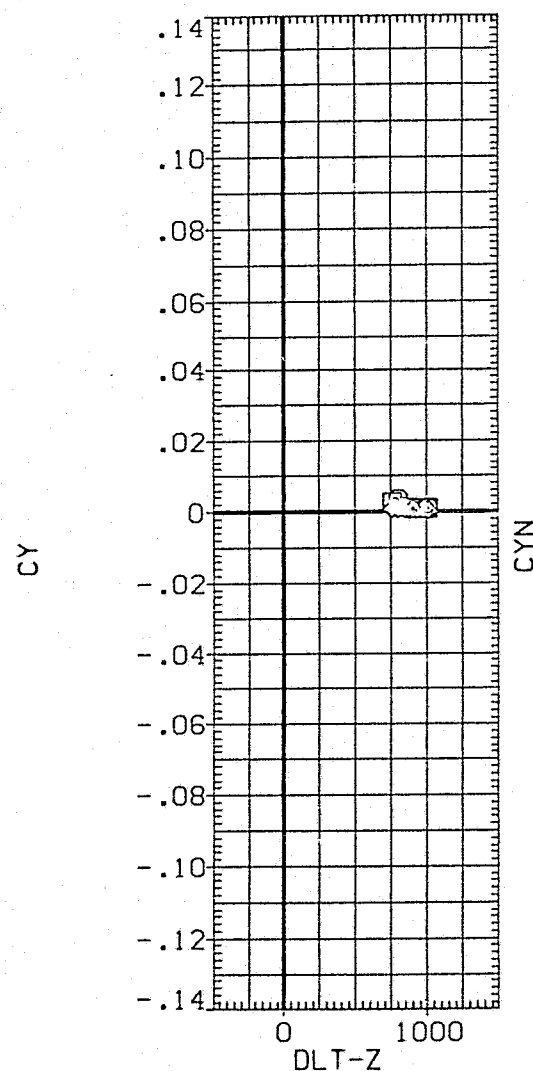


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR339)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	BETA	DLTSTA	AILRON	GRID	
○	.415	60.000	.000	.000	.000	ALPHA
□	200.480	.000	3.000	.000	.000	DLTALF
						MACH
						ELEVON
						PQ
						420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

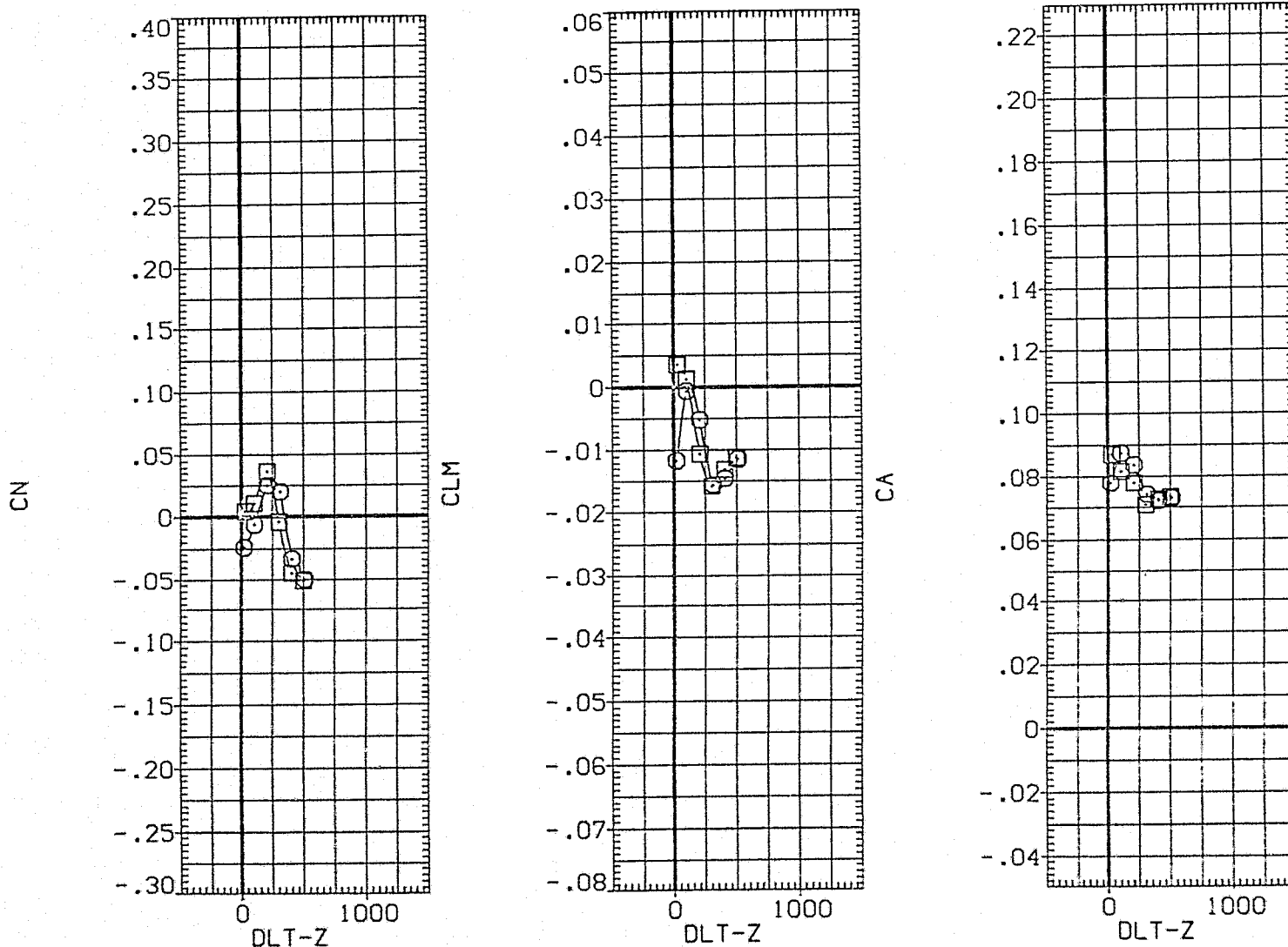


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR339)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.415		60.000	.000	
□	200.480	BETA	.000	DLTALF	.000
		DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	16.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

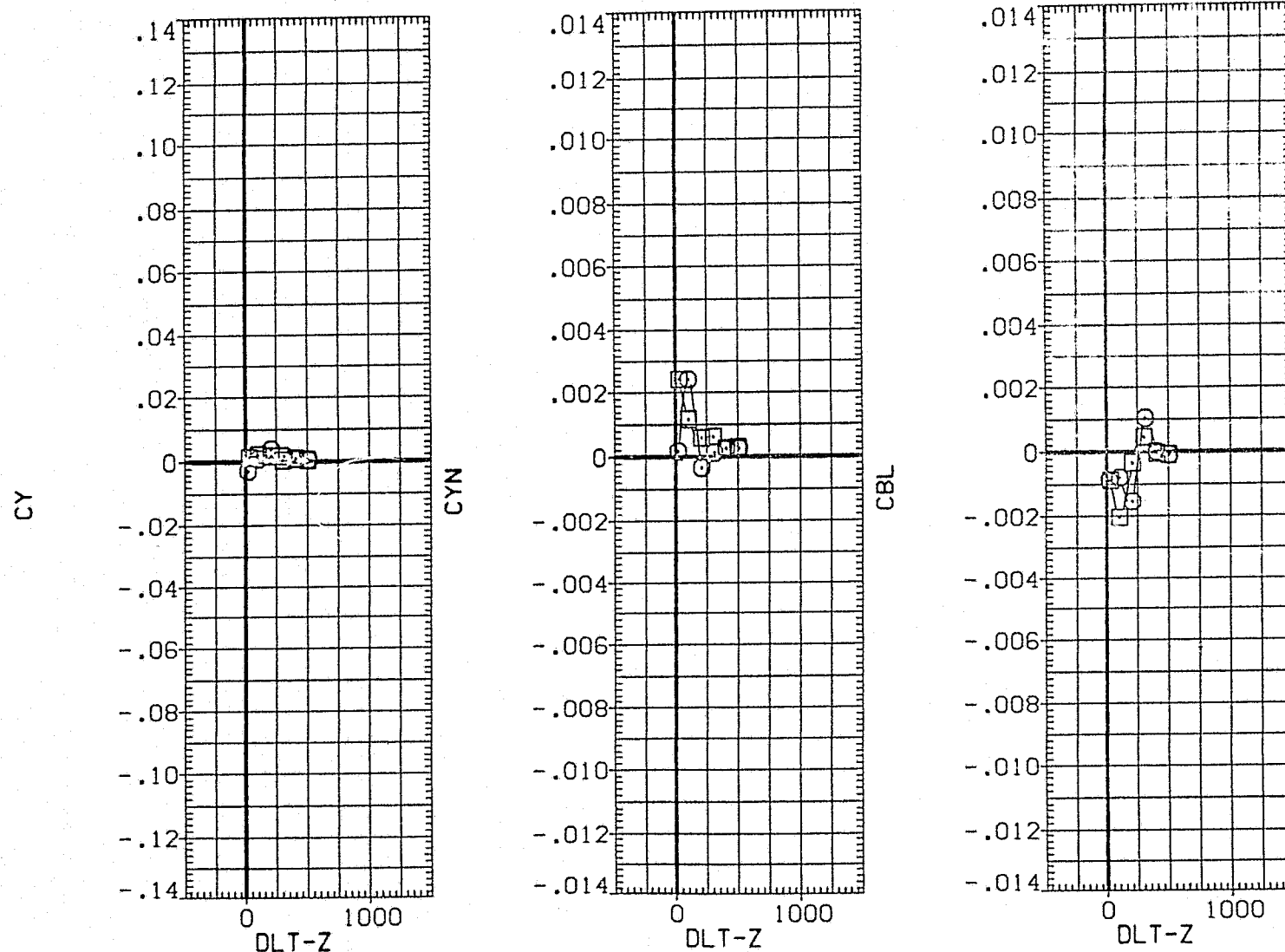


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR340)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.495	60.000	ALPHA .000
□	200.500	.000	DLTALF -10.000
◇	400.490	3.000	MACH 7.980
		.000	ELEVON .000
		16.000	P0 420.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

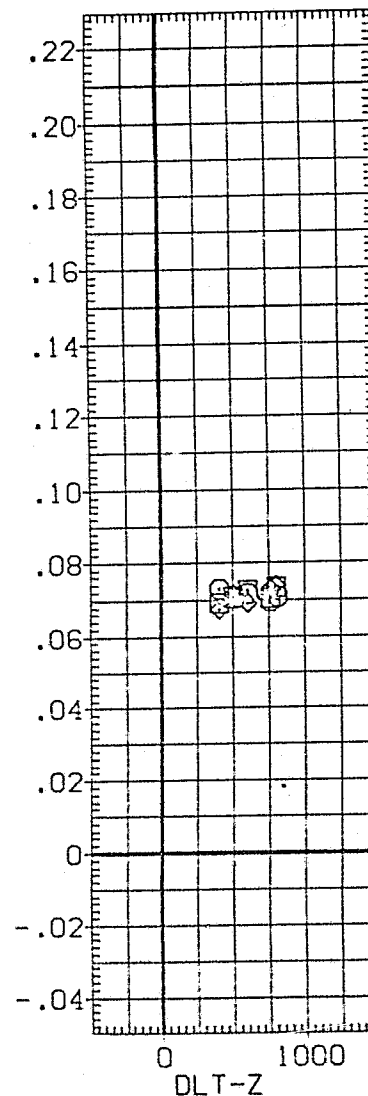
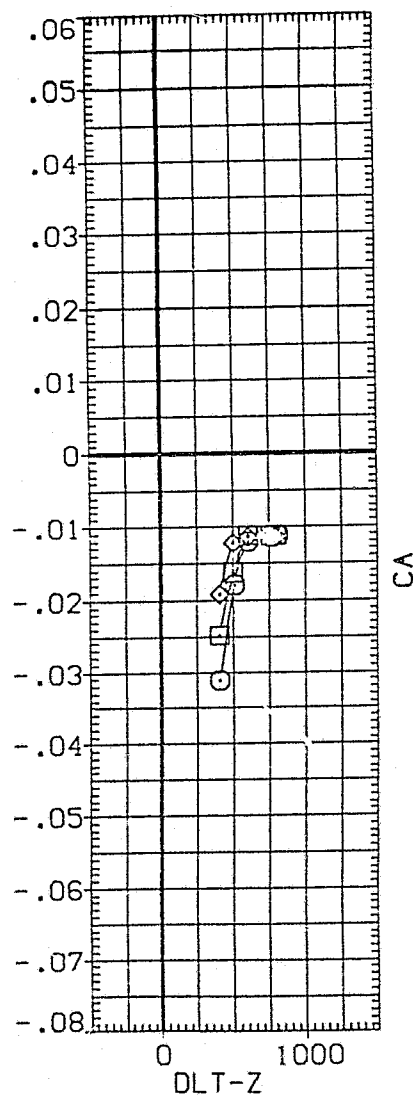
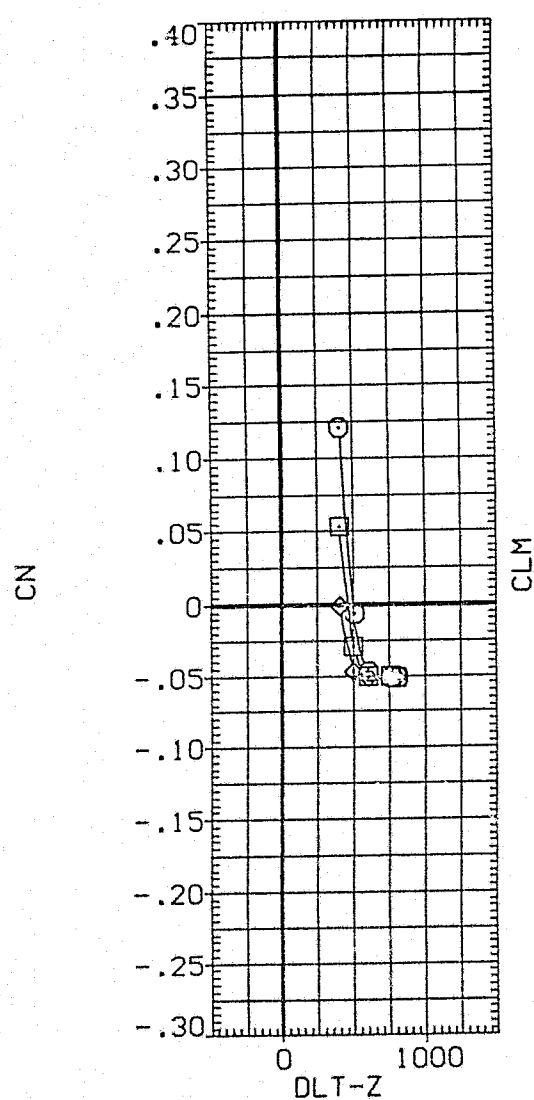


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR340)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.495	60.000	ALPHA	.000
□	200.500	BETA	.000	DLTALF -10.000
◇	400.490	DLTBTA	3.000	MACH 7.980
		AIRLON	.000	ELEVON .000
		GRID	16.000	PO 420.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

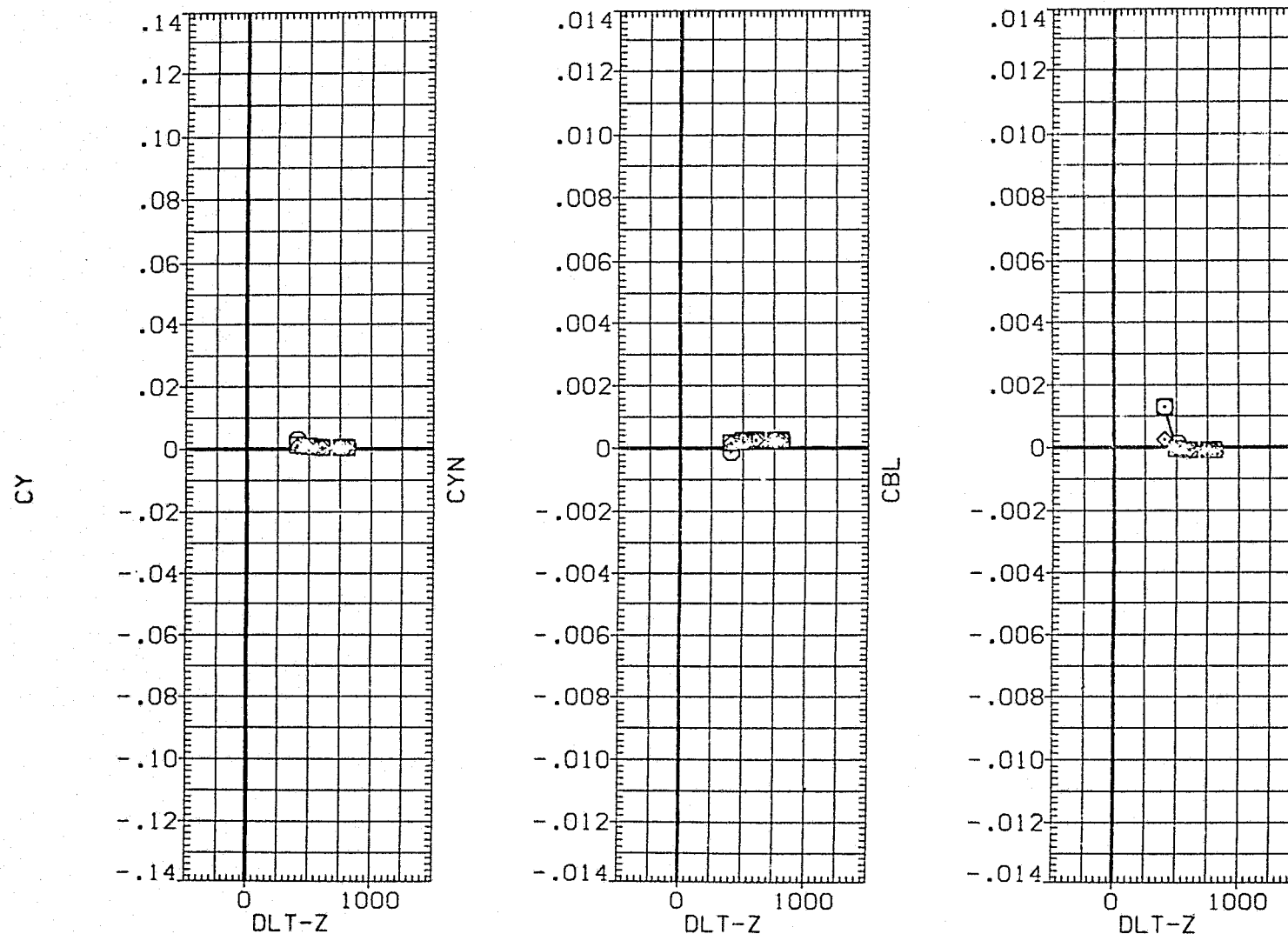


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR342)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.450	60.000	ALPHA .000
□	200.280	.000	DLTALF -20.000
◇	400.290	3.000	MACH 7.980
		.000	ELEVON .000
		16.000	PG 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

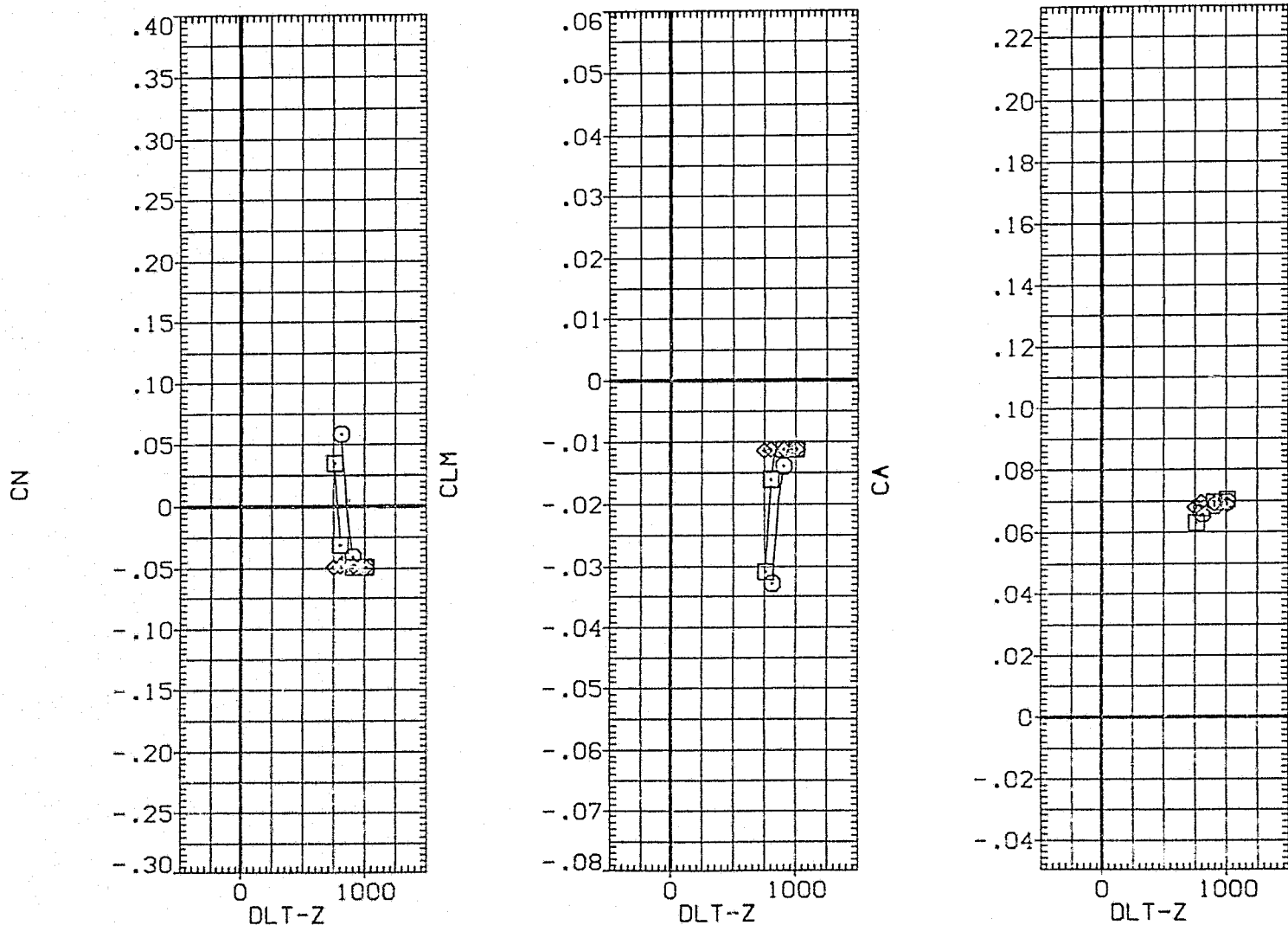


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR342)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.450	60.000	ALPHA	.000
□	200.280	BETA	.000	DLTALF -20.000
◇	400.290	DLTBT	3.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	16.000	PO 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. XC
ZMRP	.0000	IN. YC
ZMRP	375.0000	IN. ZC
SCALE	.0100	

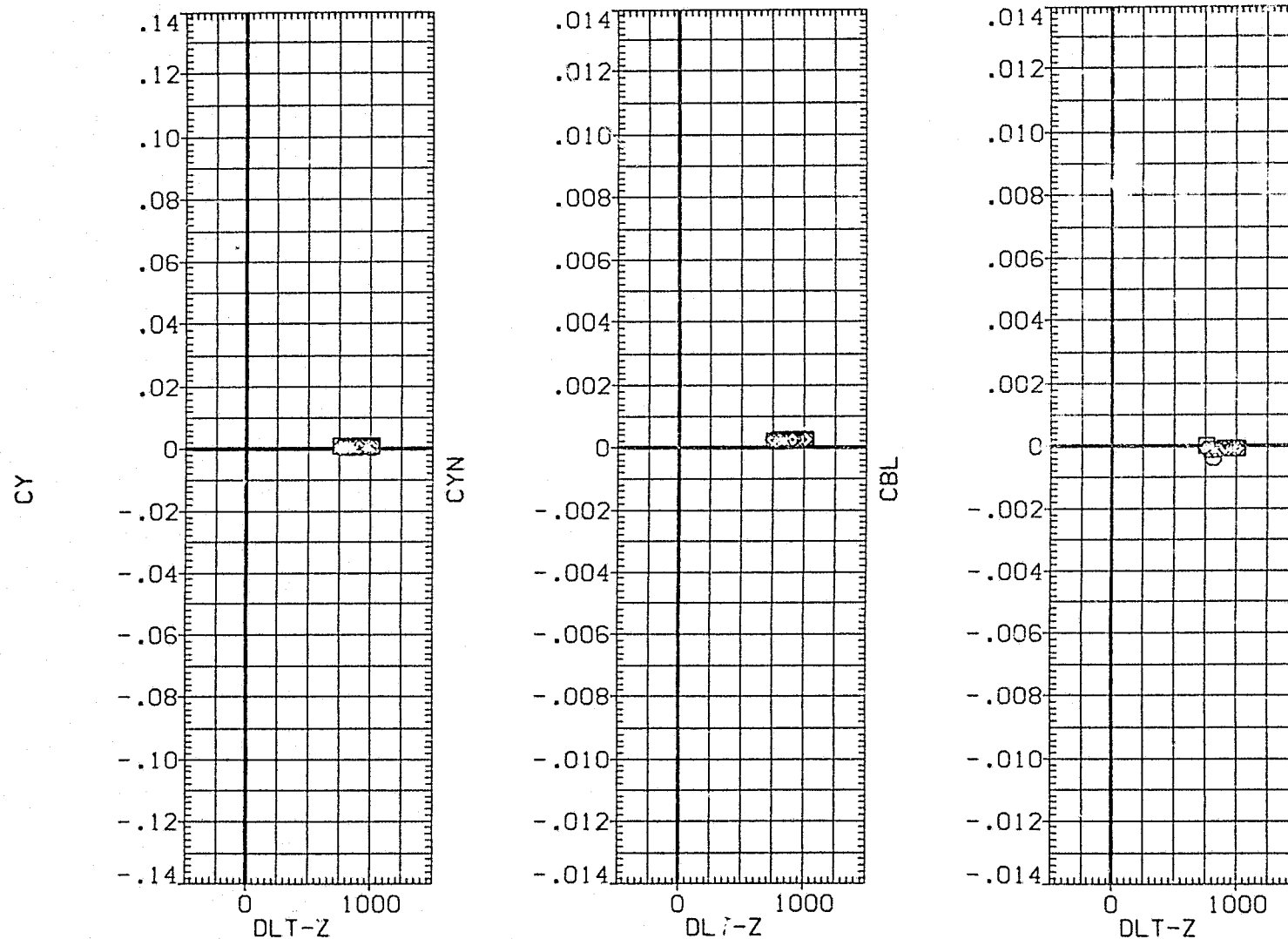


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR345)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.500	60.000	ALPHA	.000
□	200.430	3.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		17.000	PG	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

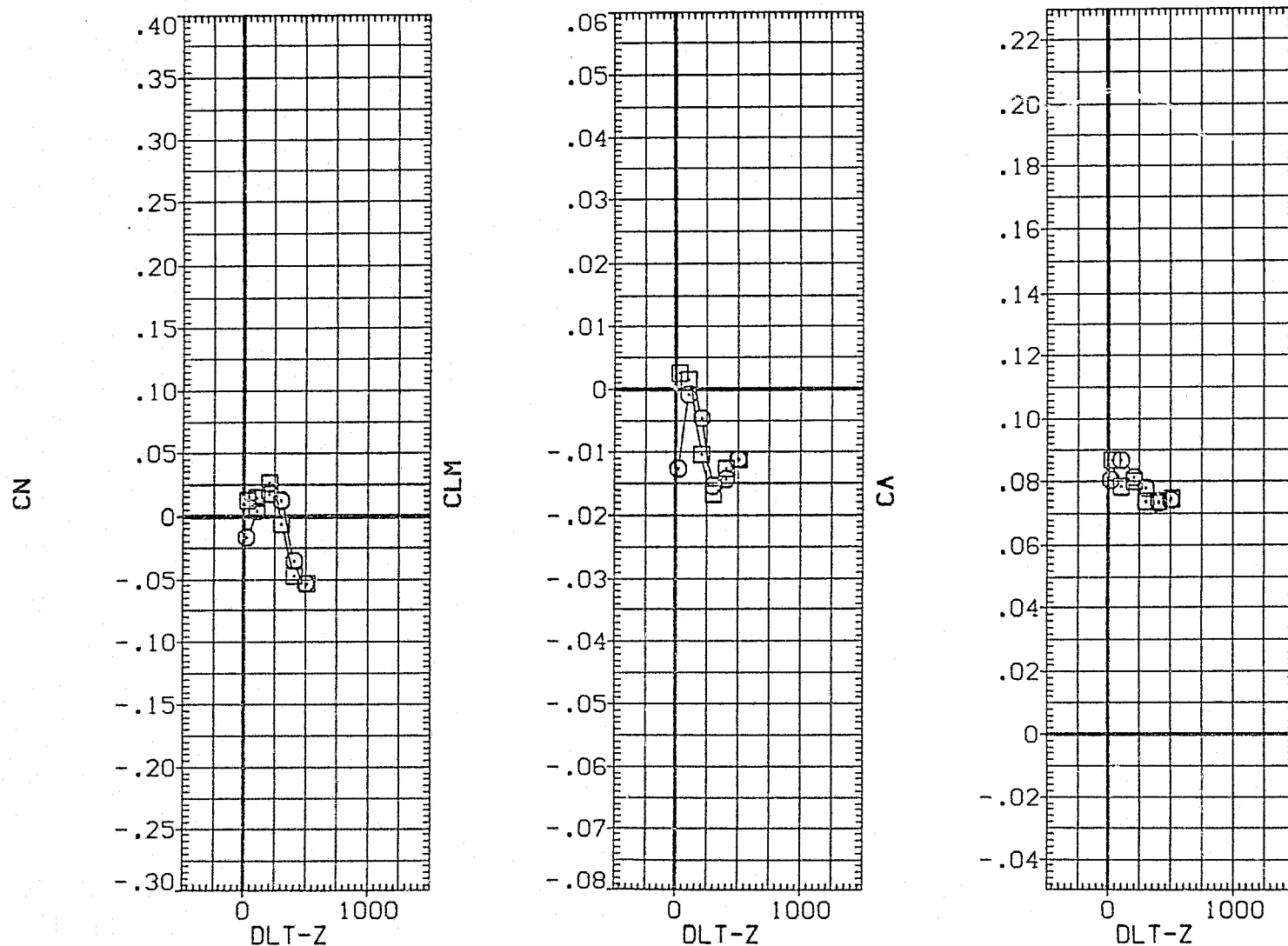


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR345)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.500	60.000	ALPHA	.000	
□	200.430	BETA	3.000	DLTALF	.000
		DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	17.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMPP	1089.6000	IN. X0
YMPP	.0000	IN. Y0
ZMPP	375.0000	IN. Z0
SCALE	.0100	

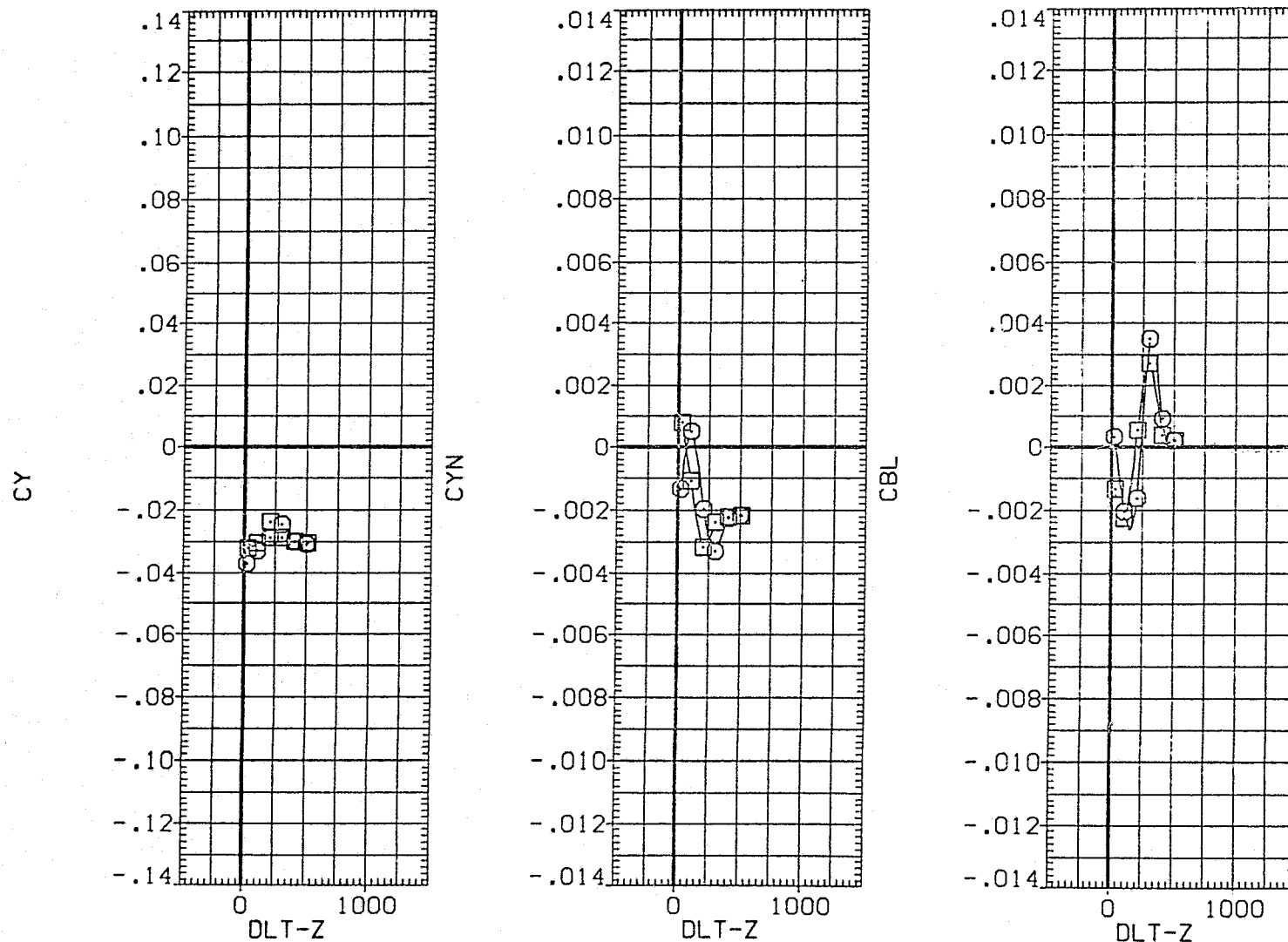


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR346)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.620	60.000	ALPHA	.000	
□	200.490	BETA	3.000	DLTALF	-10.000
◇	400.470	DLTBT	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	17.000	PQ	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

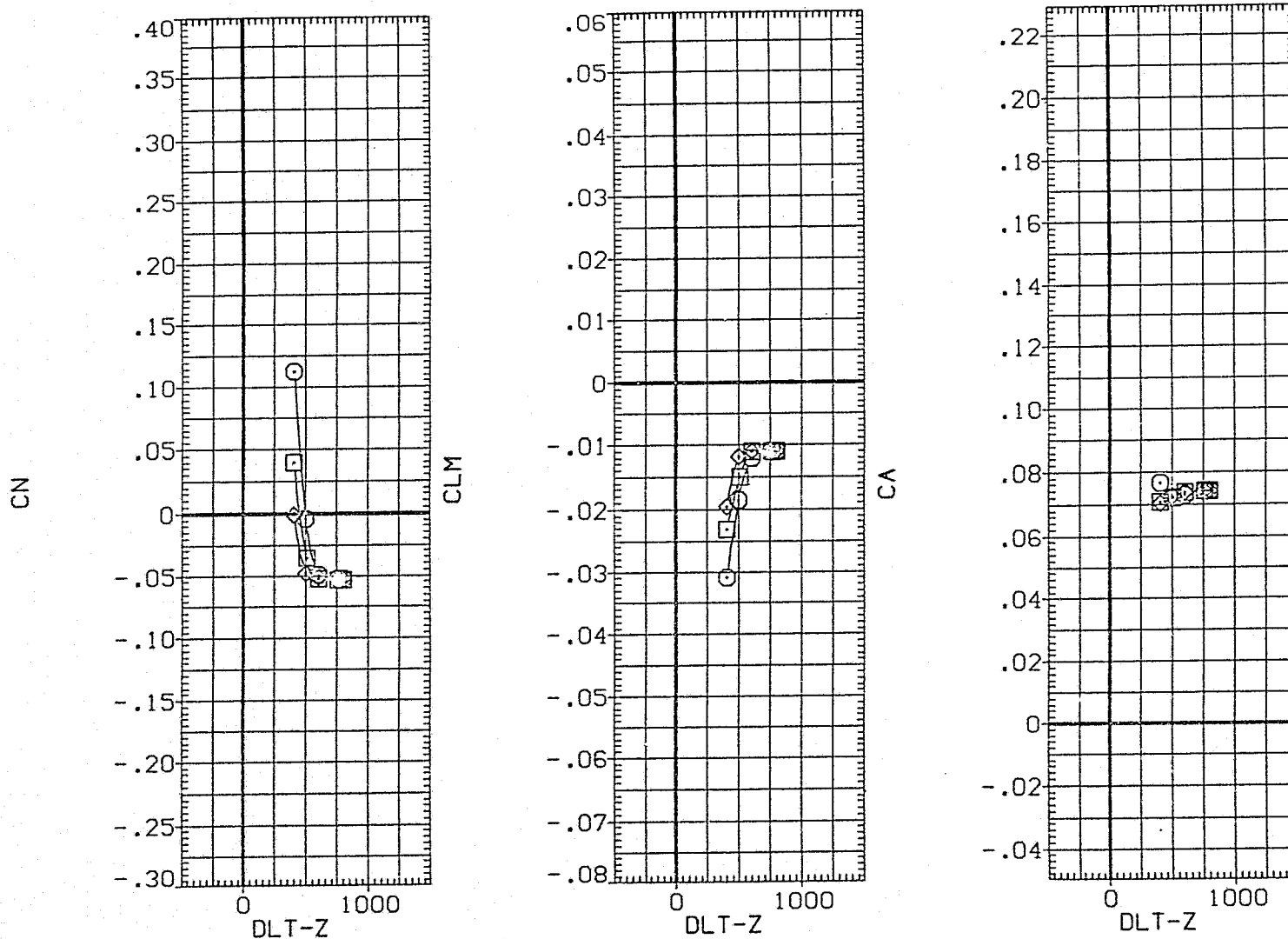


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR346)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.620	60.000	ALPHA .000
□	200.490	BETA 3.000	DLTALF -10.000
◇	400.470	DLTBTA .000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 17.000	PO 420.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1230.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

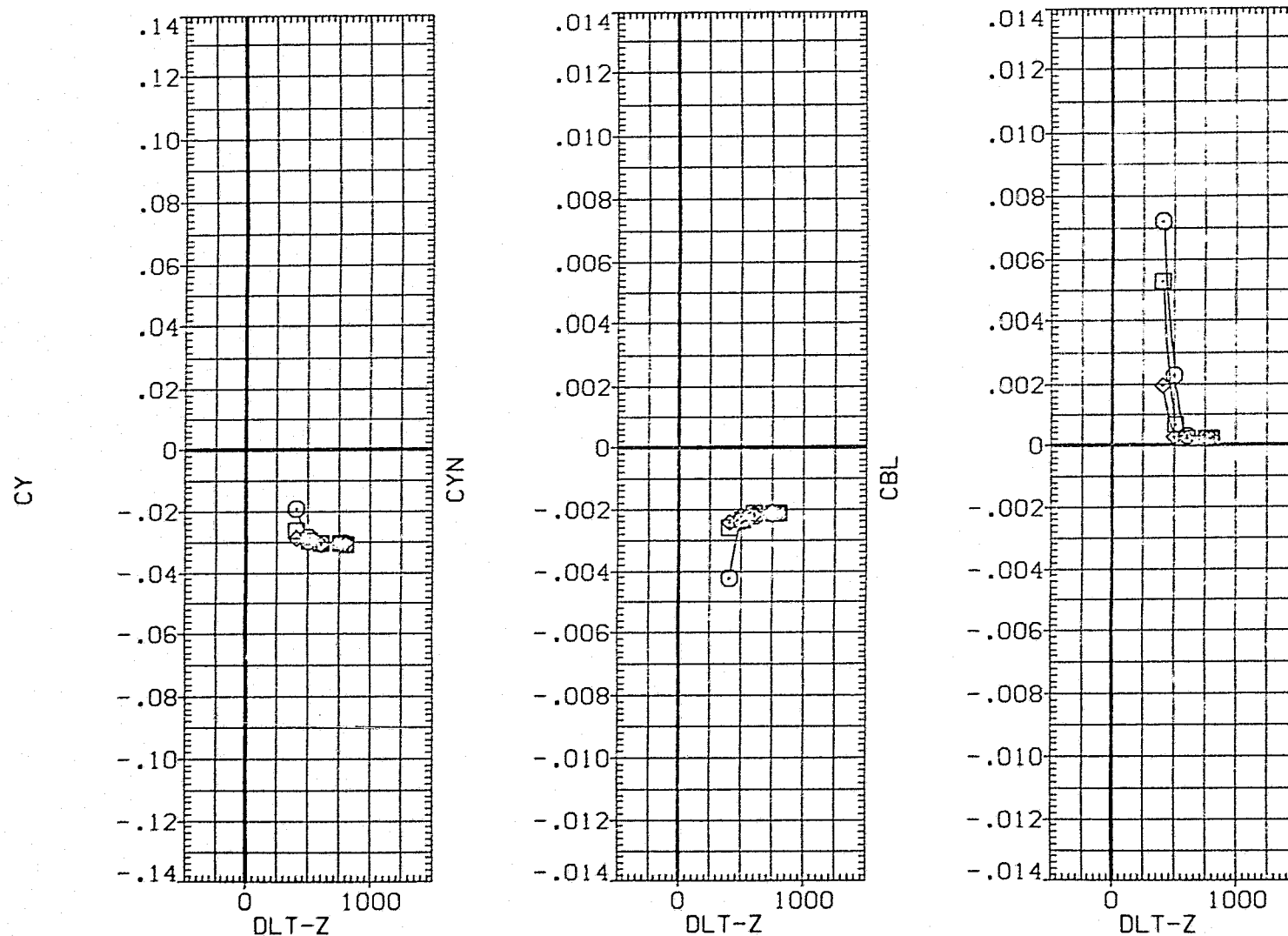


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR348)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	DLT-Y	DLT-Z	DLT-Y	DLT-Z
○	.397	60.000	ALPHA	.000		
□	200.420	3.000	DLTALF	-20.000		
◇	400.370	.000	MACH	7.980		
		.000	ELEVON	.000		
		17.000	PQ	420.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

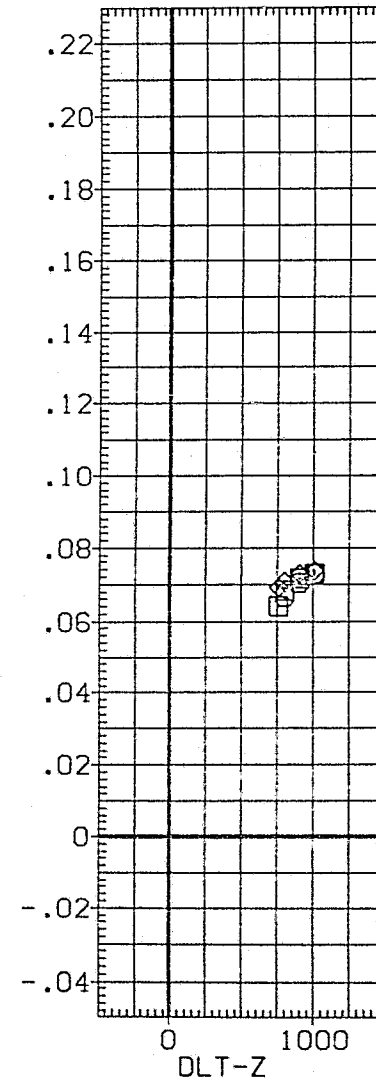
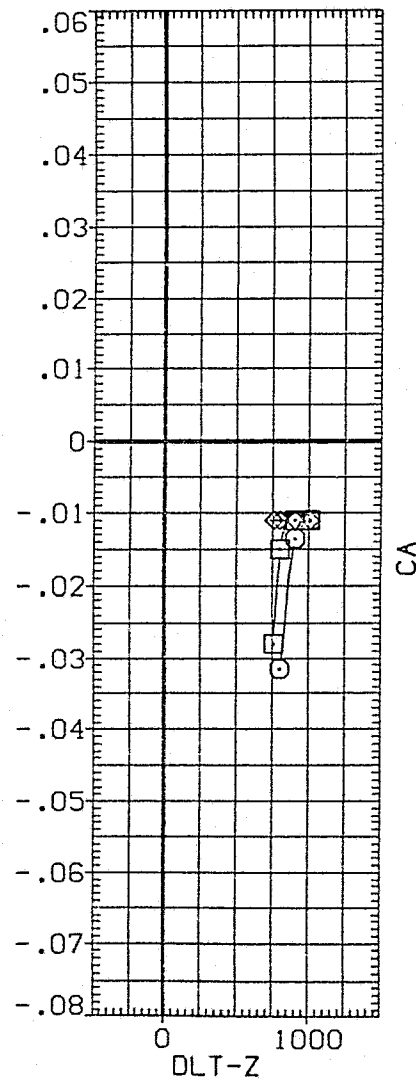
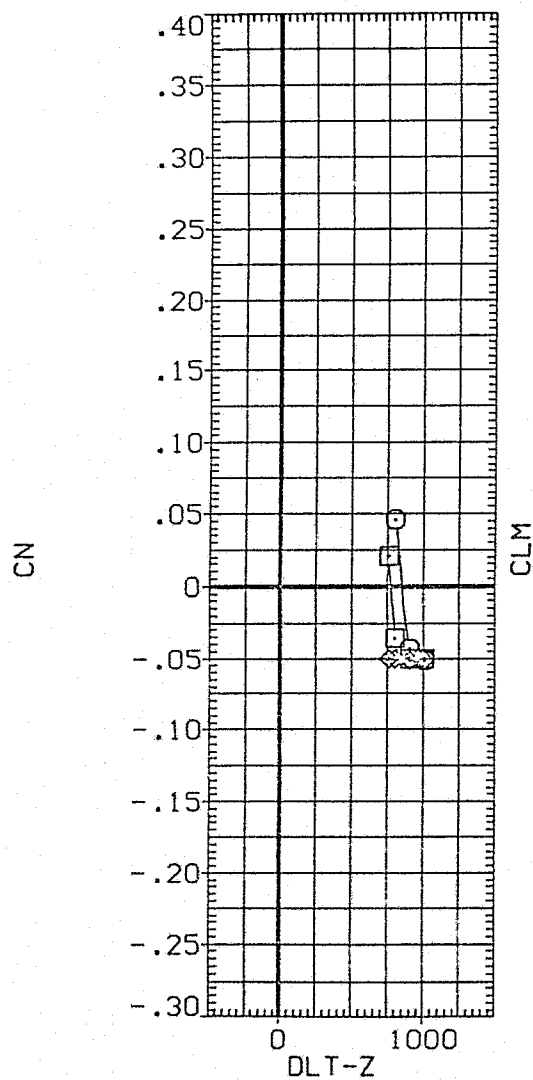


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR348)

SYMBOL
○
□
◇

DLT-X
.397
200.420
400.370

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
60.000
3.000
.000
.000
17.000

ALPHA
DLTALF
MACH
ELEVON
PO
.000
-20.000
7.980
.000
420.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

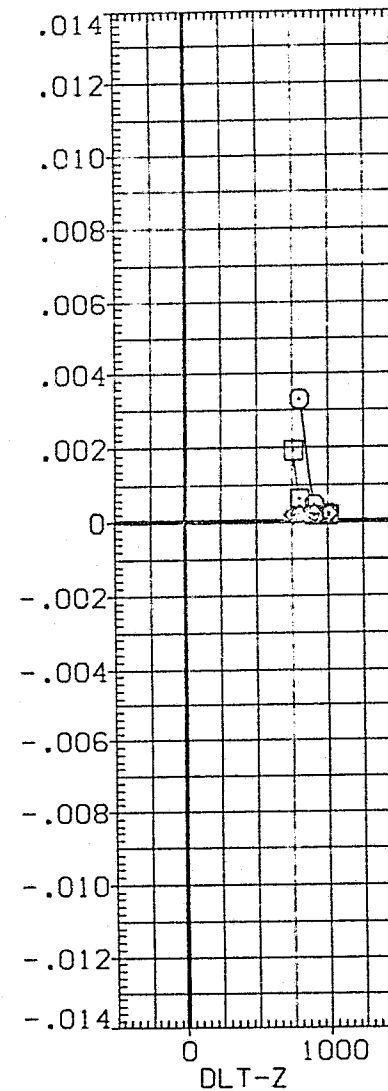
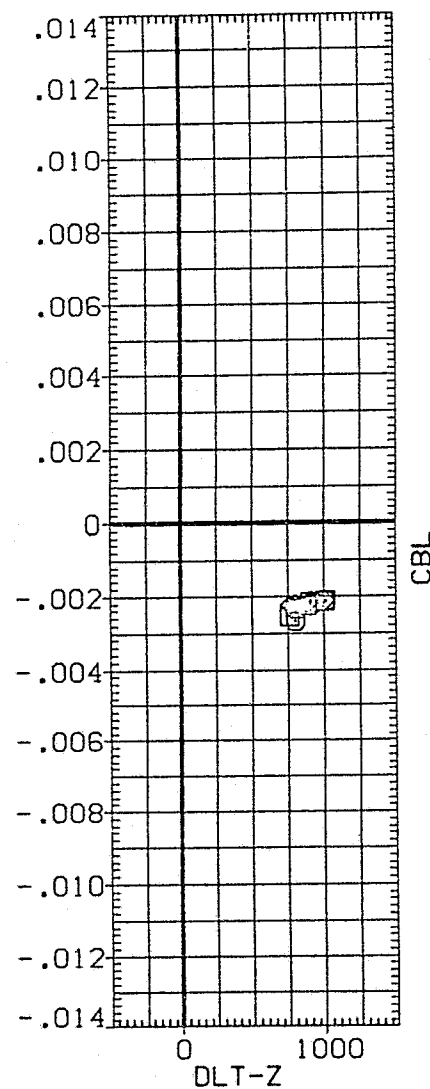
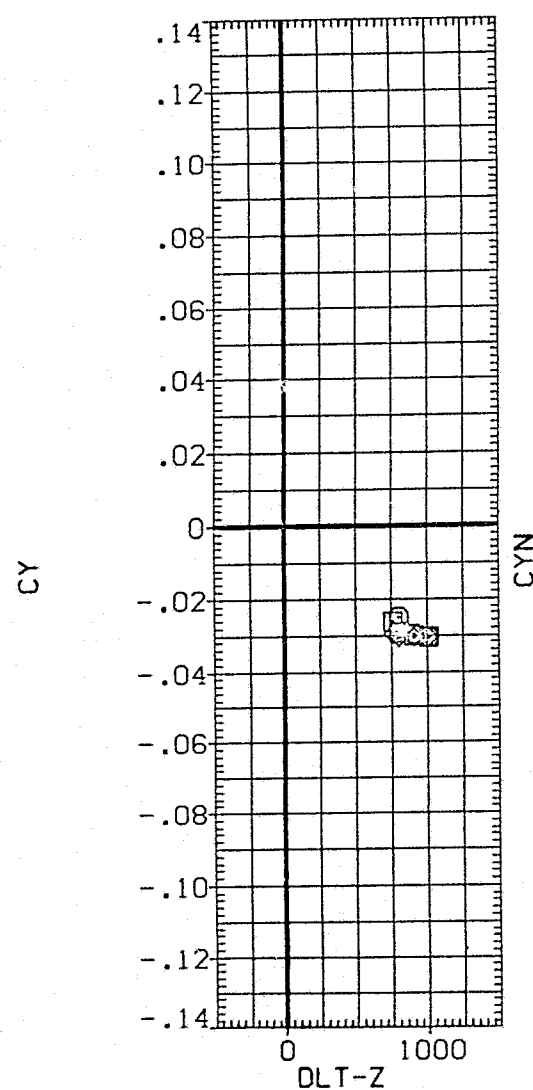


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR349)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.571	60.000	ALPHA	.000
□	200.490	3.000	DLTALF	.000
		3.000	MACH	7.980
		.000	ELEVON	.000
		17.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

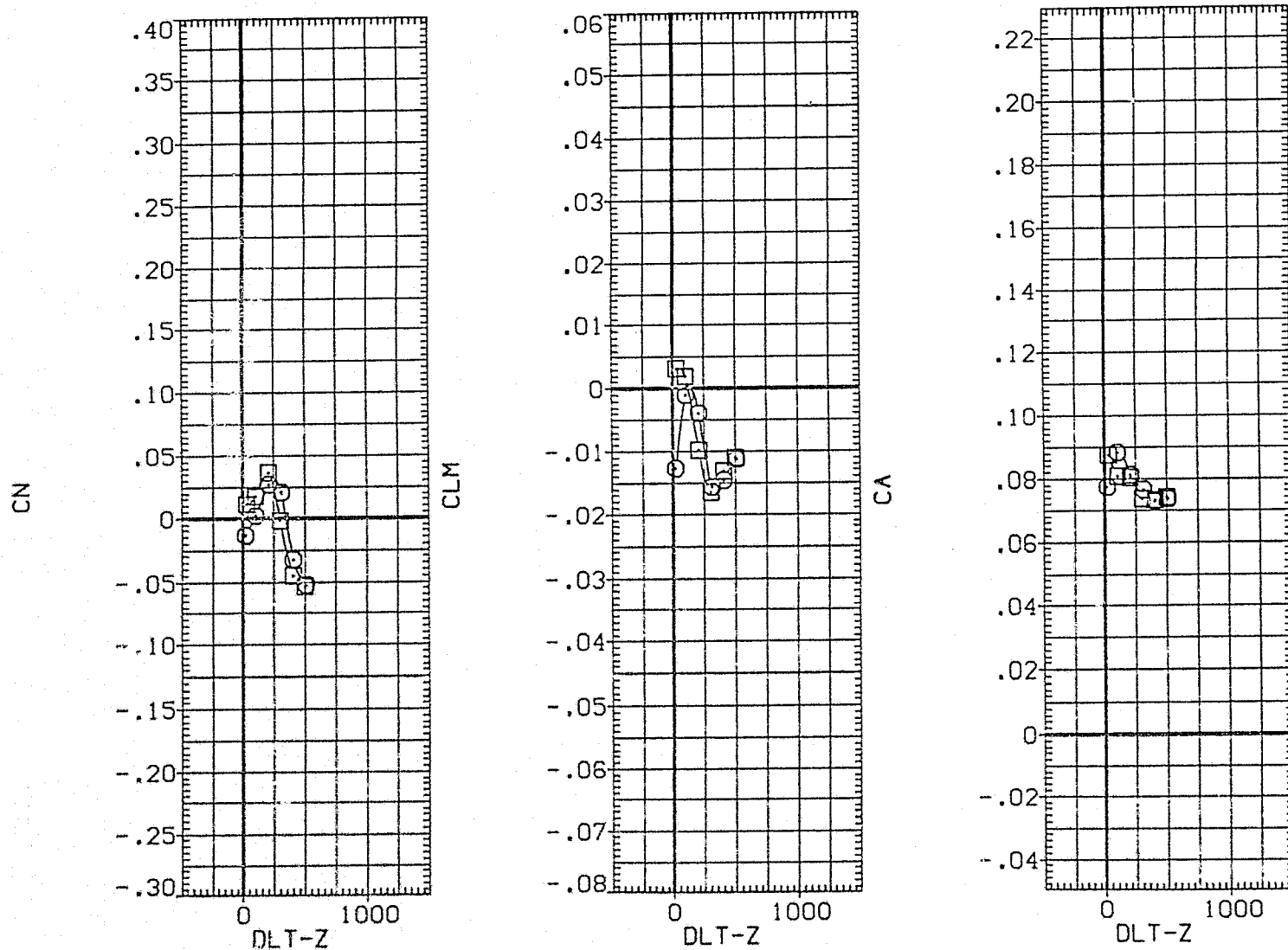


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR349)

SYMBOL

○

DLT-X

.571

□

200.490

DLT-Y

BETA

DLTBT

AIRLON

GRID

PARAMETRIC VALUES

60.000

3.000

3.000

.000

17.000

ALPHA

DLTALF

MACH

ELEVON

PG

.000

.000

7.980

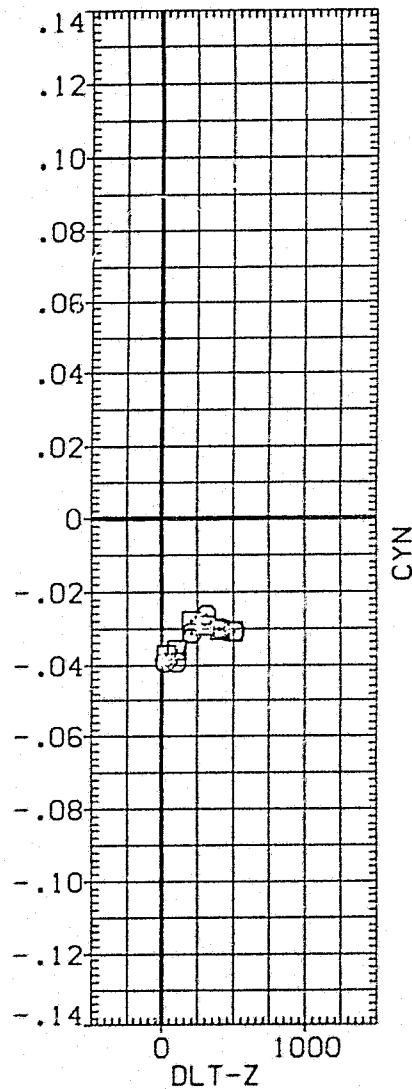
.000

420.000

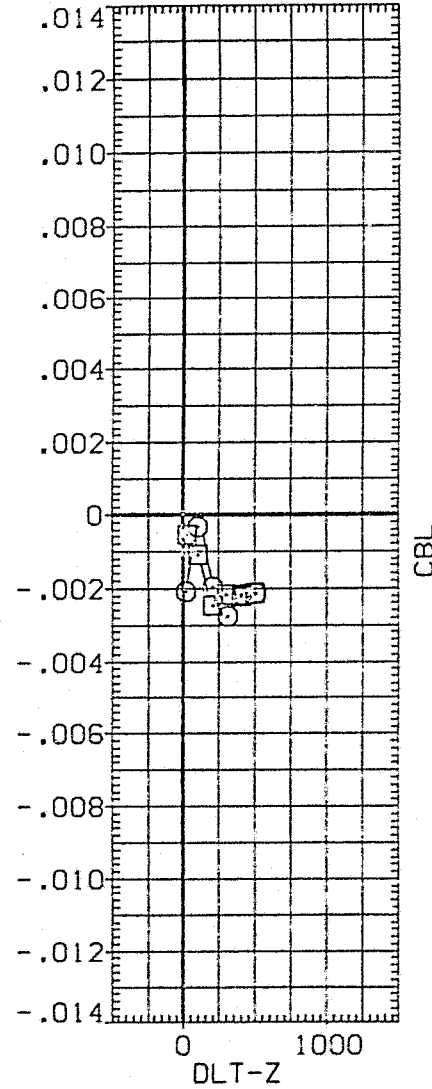
REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

CY



CYN



CBL

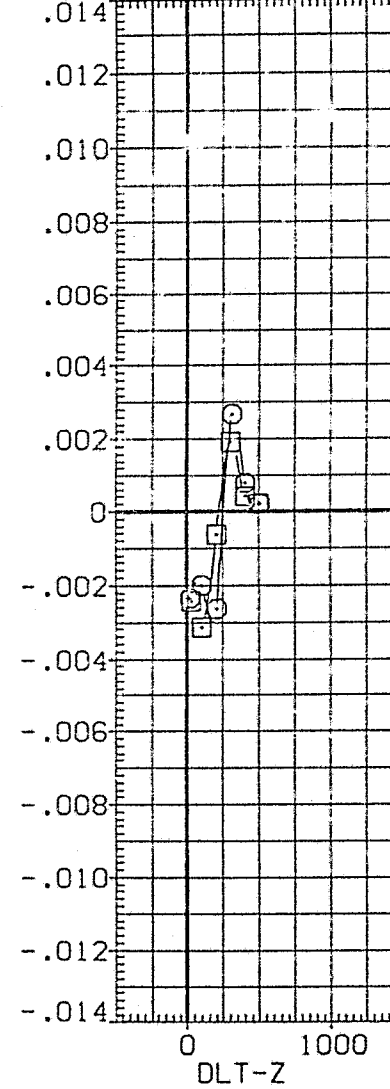


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR350)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.489		60.000	.000
□	200.570	BETA	3.000	DLTALF -10.000
◇	400.490	DLTBTA	3.000	MACH 7.980
		AIRLON	.000	ELEVON .000
		GRID	17.000	P0 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

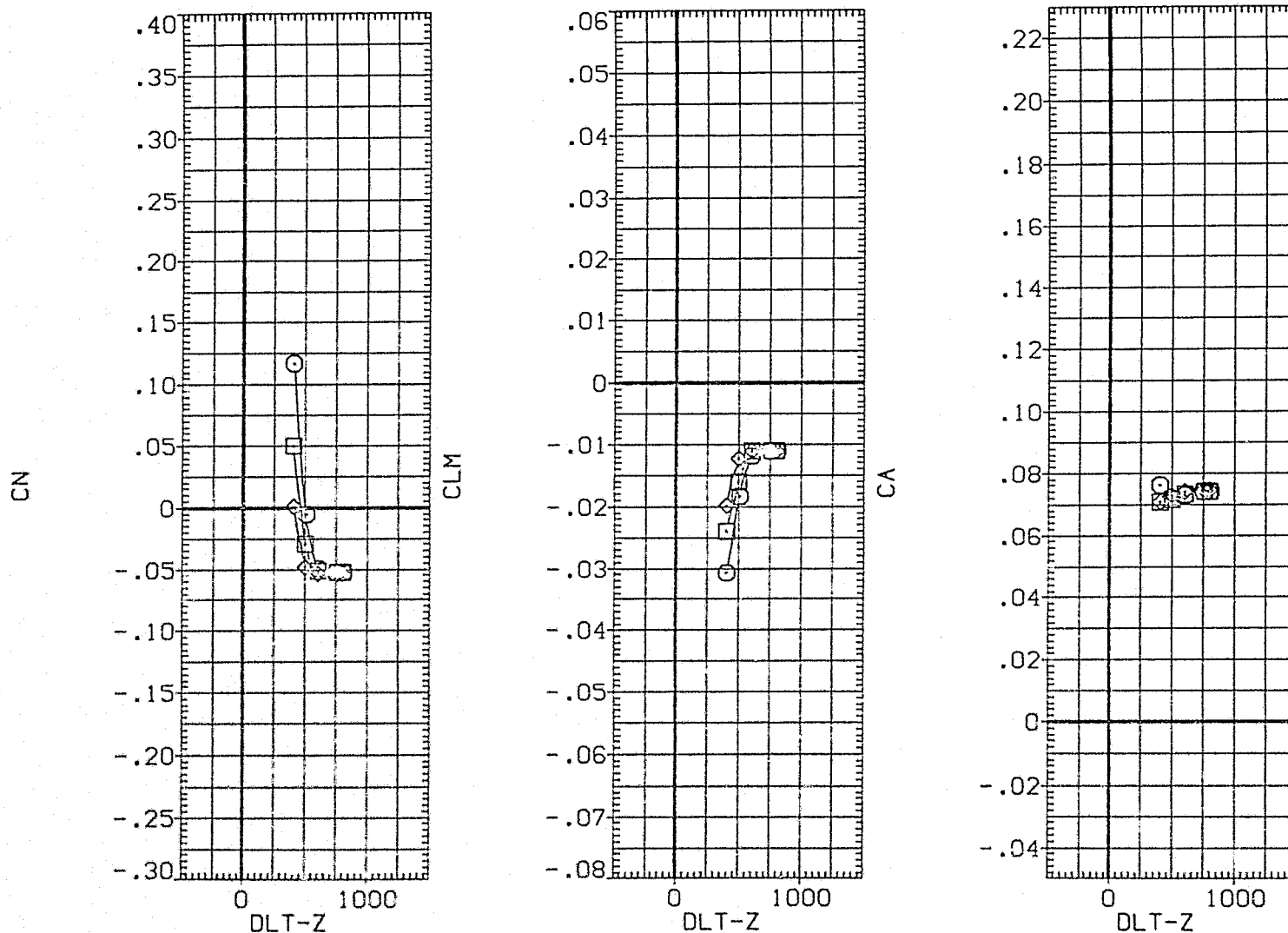


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR350)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.489	60.000	.000	-10.000	7.980	.000
□	200.570	3.000	.000	.000	.000	.000
◇	400.490	3.000	.000	.000	.000	.000
	AILRON	GRID	17.000	PO	420.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	.089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

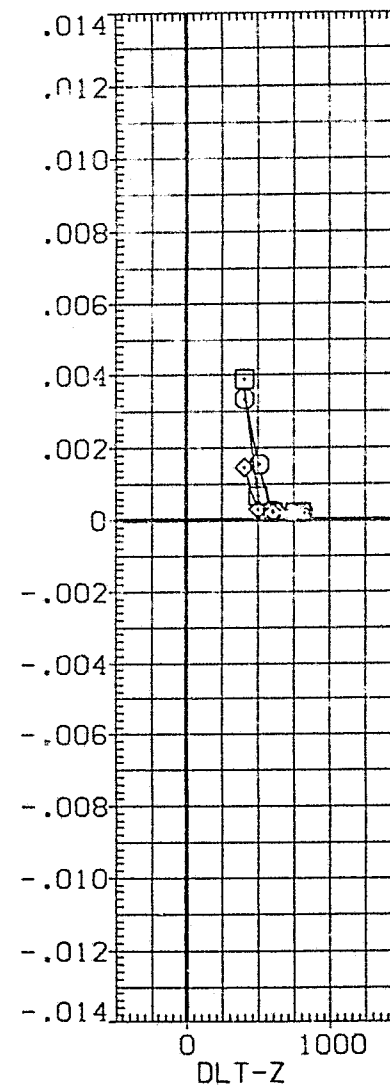
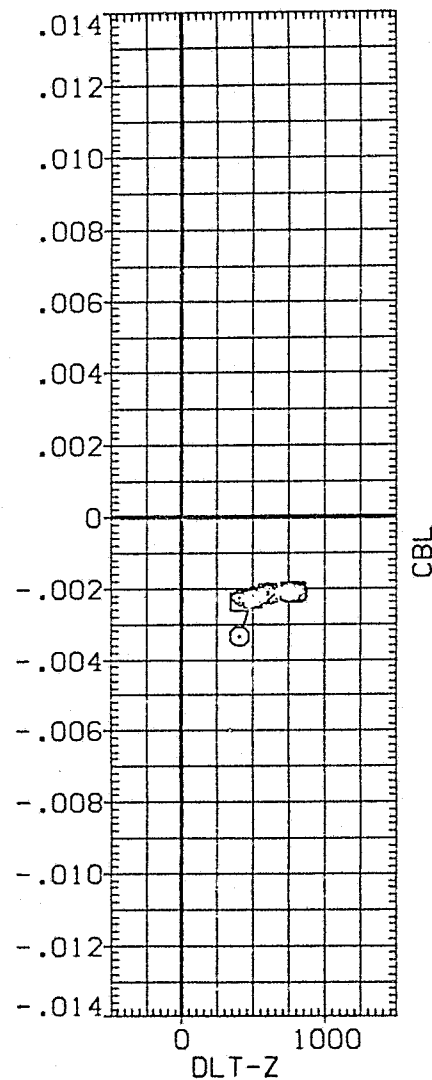
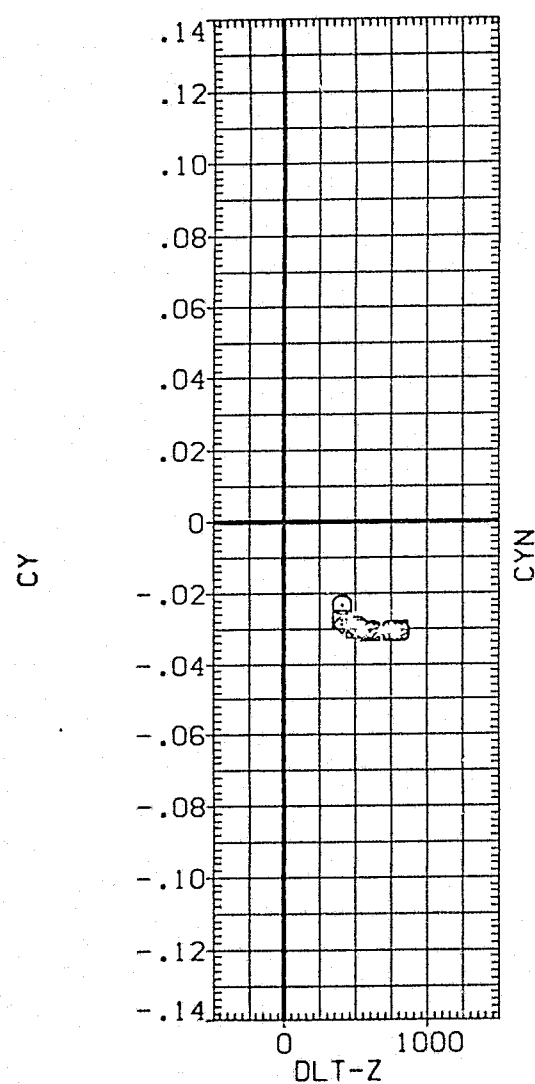


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR352)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.508		60.000	ALPHA .000
□	200.530	BETA	3.000	DLTALF -20.000
◇	400.410	DLTBTA	3.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	17.000	P0 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

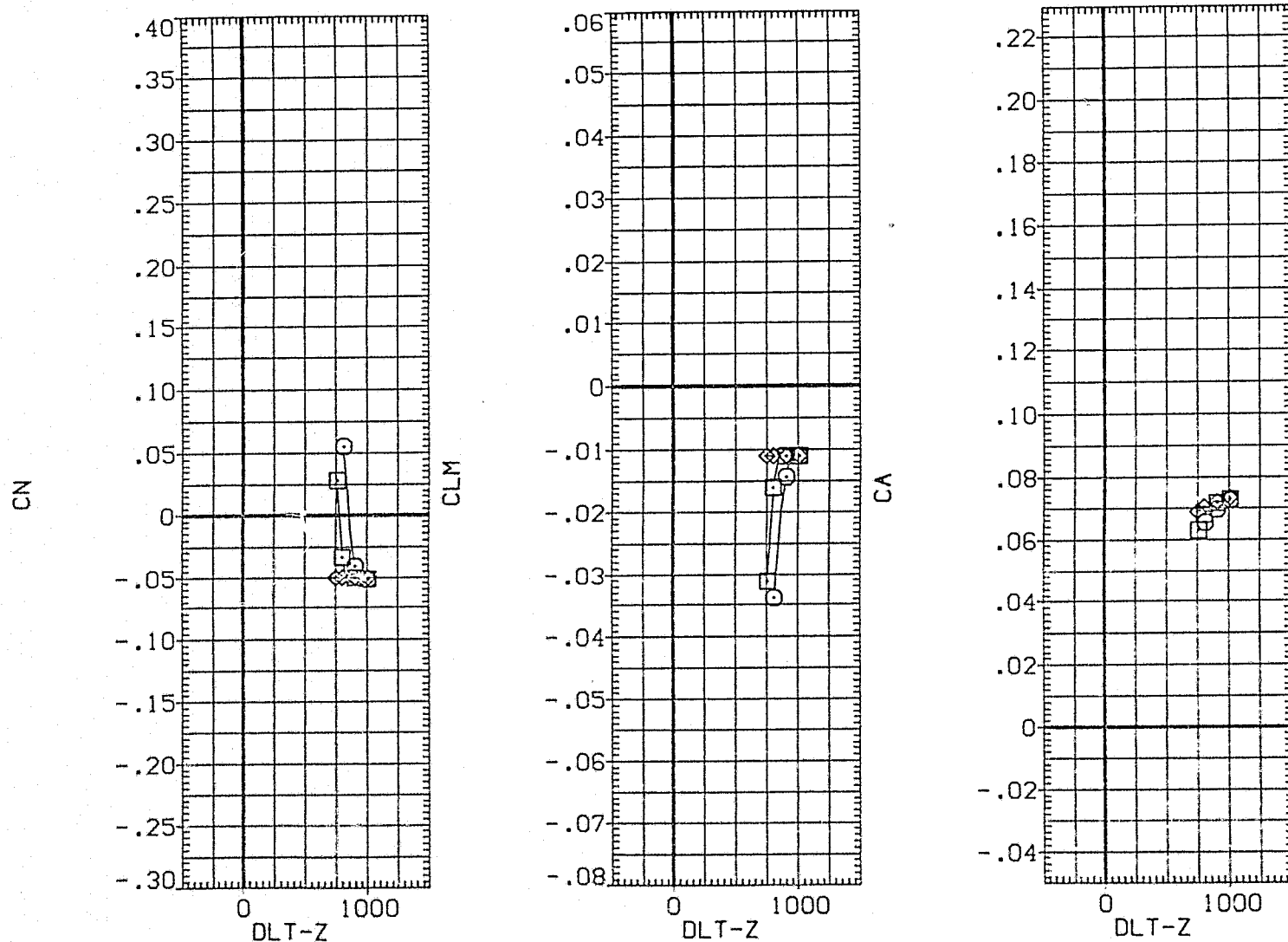
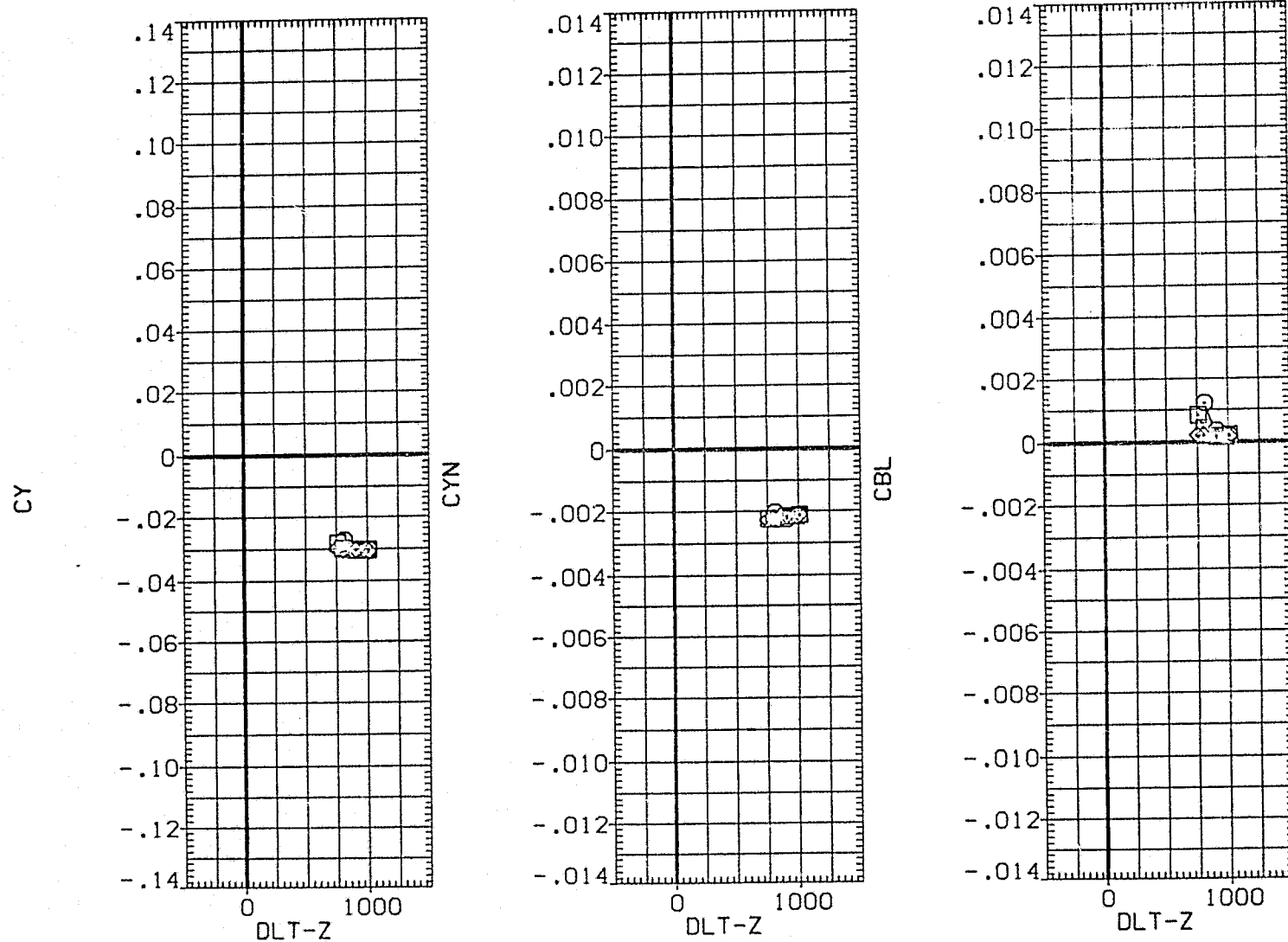


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

SYMBOL		DLT-X	PARAMETRIC VALUES		
○		.508	DLT-Y	60.000	ALPHA .000
□		200.530	BETA	3.000	DLTALF -20.000
◇		400.410	DLTBT A	3.000	MACH 7.980
			AIRLON	.000	ELEVON .000
			GRID	17.000	PO 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SO. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	



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AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR380)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.537	BETA	60.000	ALPHA	5.000
□	200.580	DLTBTA	.000	DLTALF	.000
		AILRON	.000	MACH	7.980
		GRID	24.000	ELEVON	.000
			PC	300.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

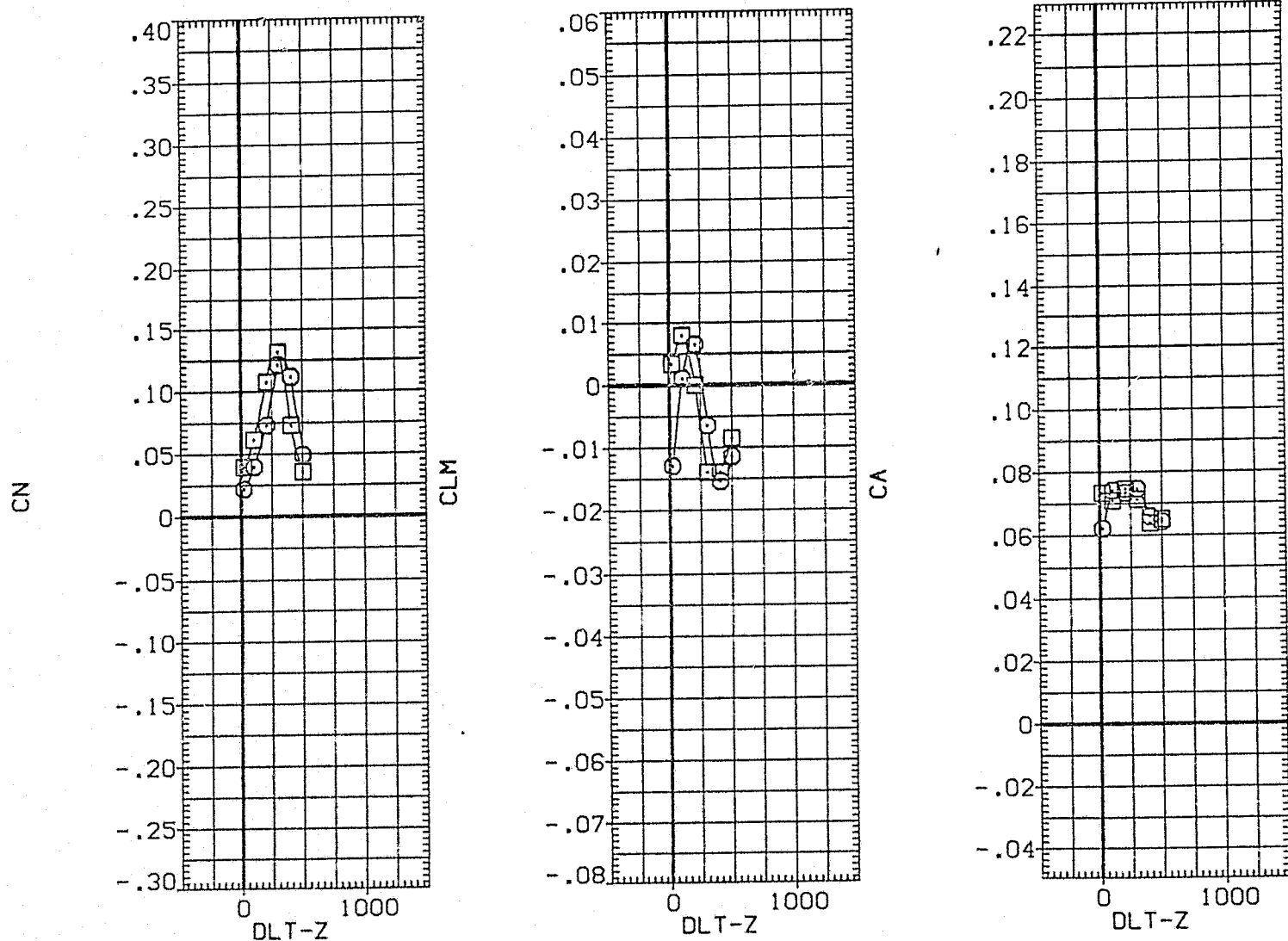


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR380)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	.537	DLT-Y	60.000	ALPHA	5.000
□	200.580	BETA	.000	DLTALF	.000
		DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	24.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

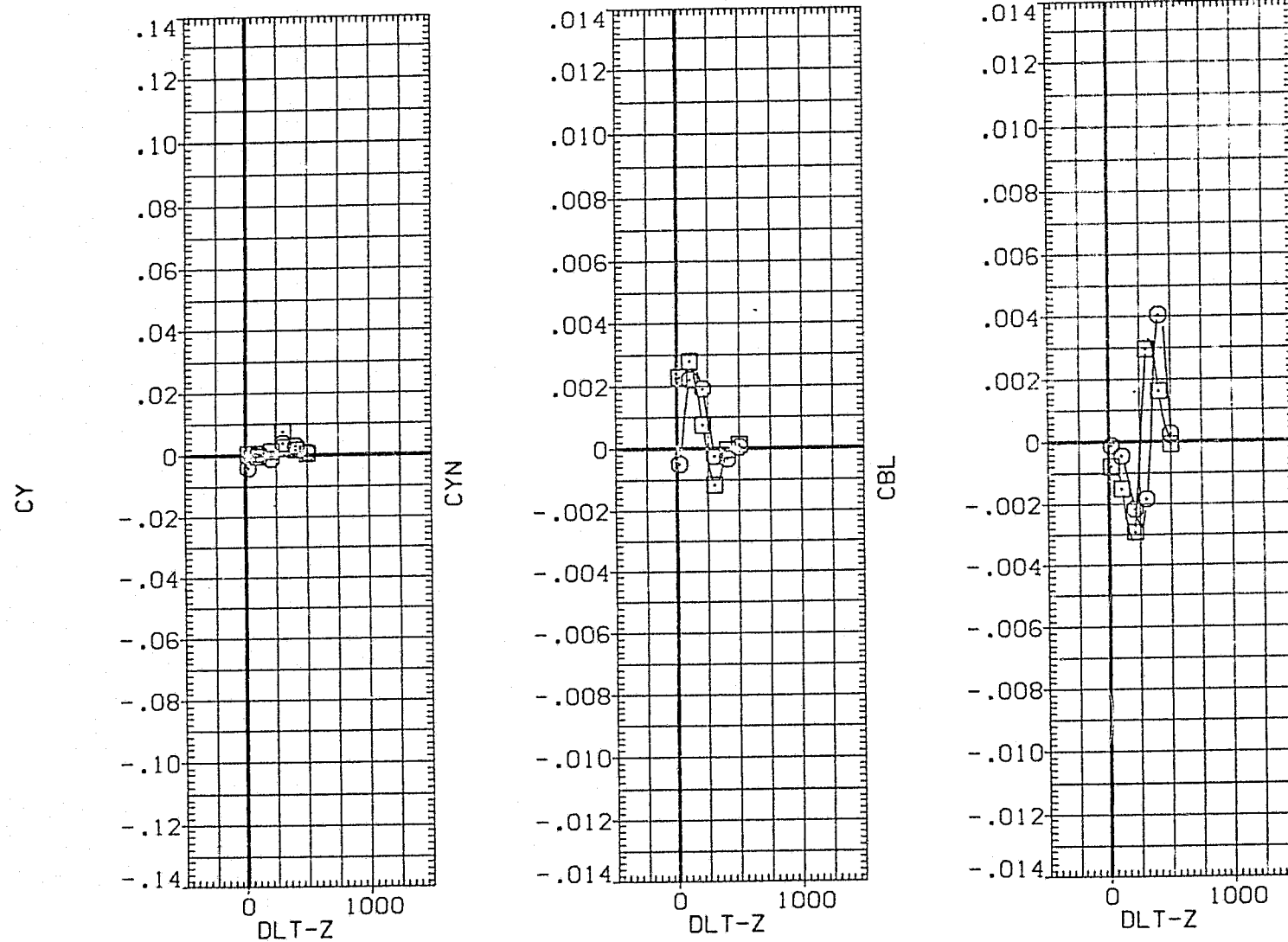


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR381)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	5.000
○	.502	BETA	60.000	DLTALF	-10.000
□	200.400	DLTBTA	.000	MACH	7.990
◇	400.470	AILRON	.000	ELEVON	.000
		GRID	24.000	PO	300.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

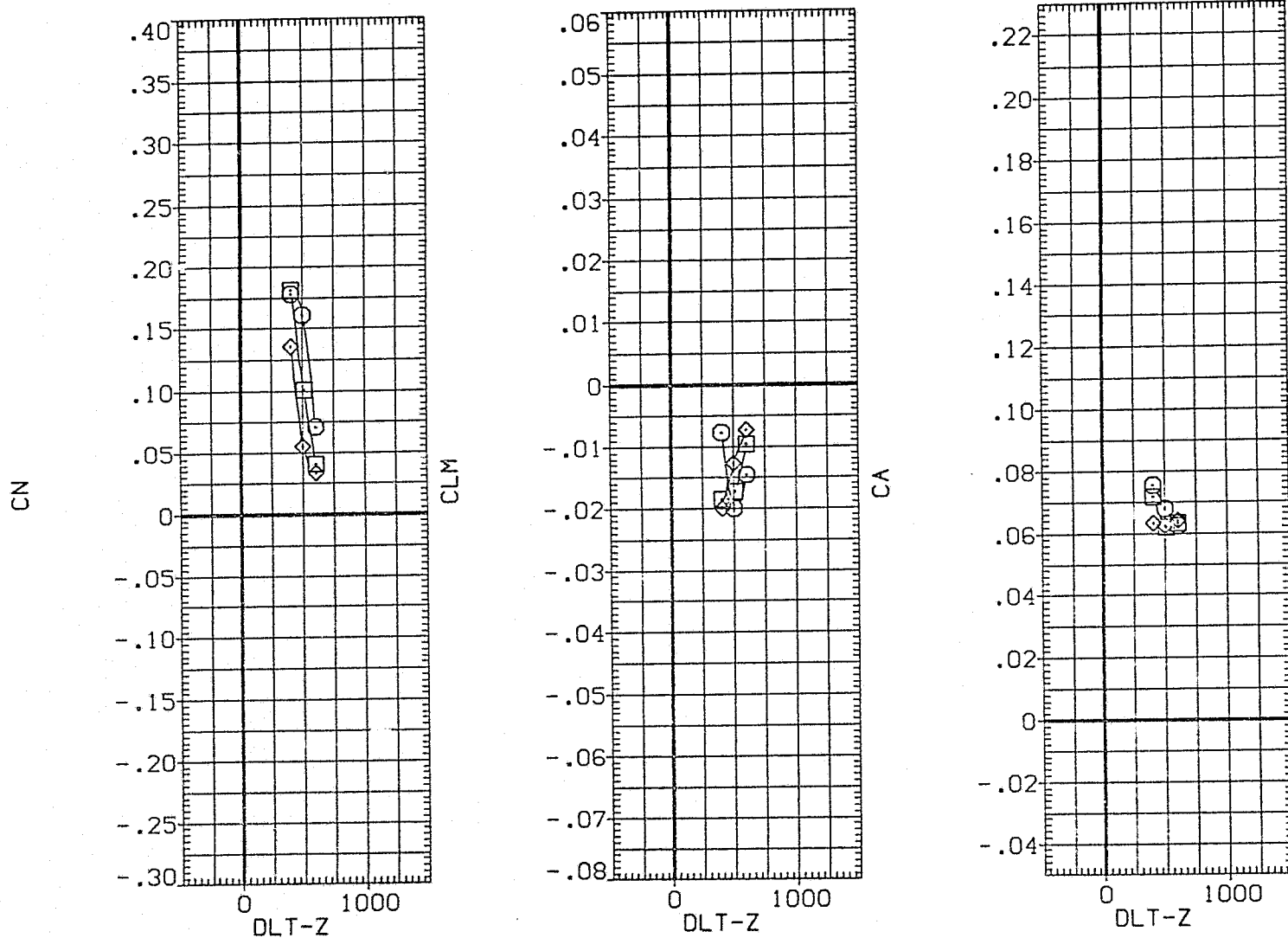


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR381)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.502		60.000	5.000	
□	200.400	BETA	.000	-10.000	
◇	400.470	DLTBTA	.000	MACH	7.980
		ATLRON	.000	ELEVON	.000
		GRID	24.000	PO	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.2000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

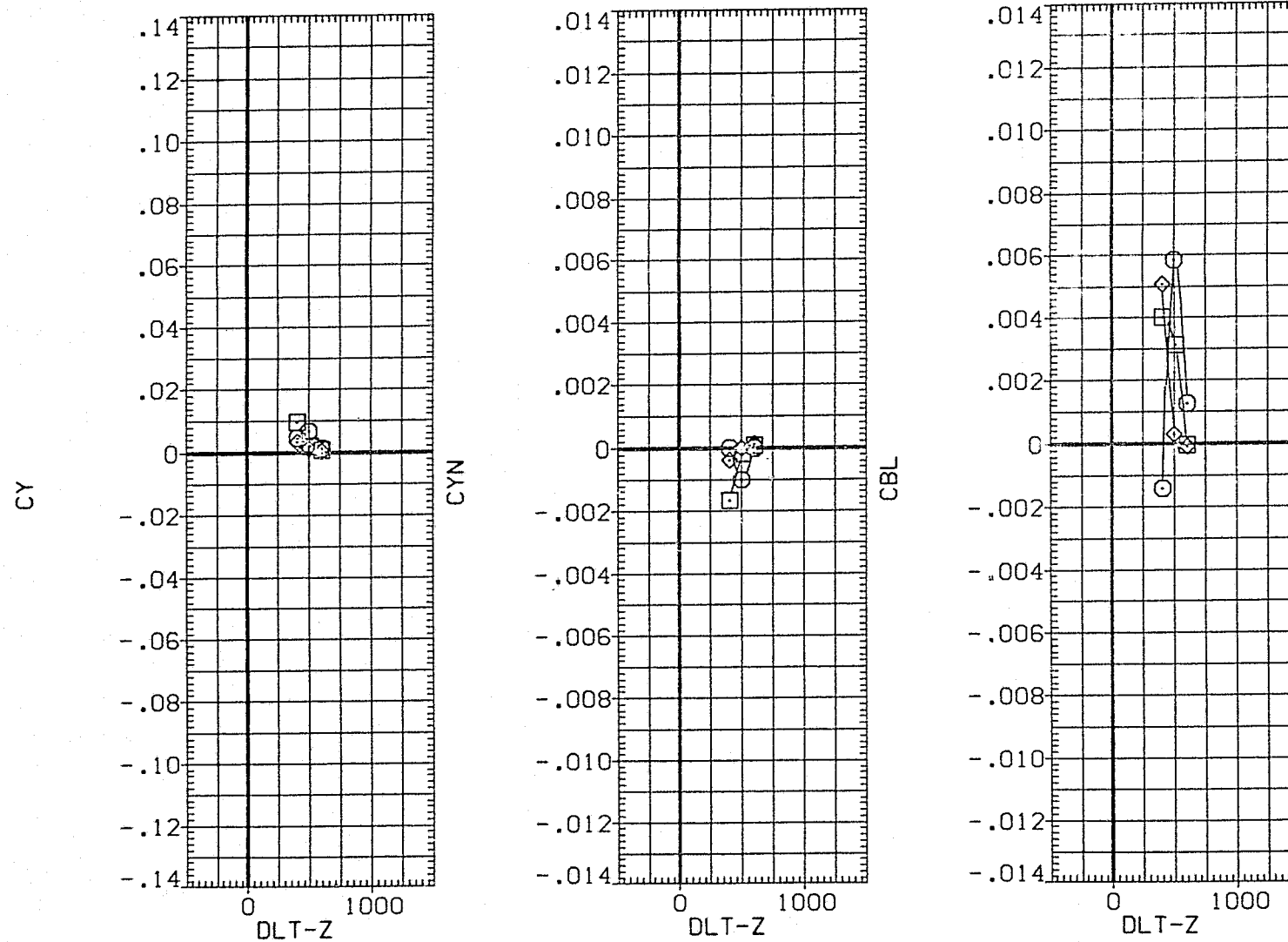


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR383)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.402	60.000	ALPHA	5.000	
□	200.370	.000	DLTALF	-20.000	
◇	400.450	.000	MACH	7.980	
		.000	ELEVON	.000	
		24.000	PG	300.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

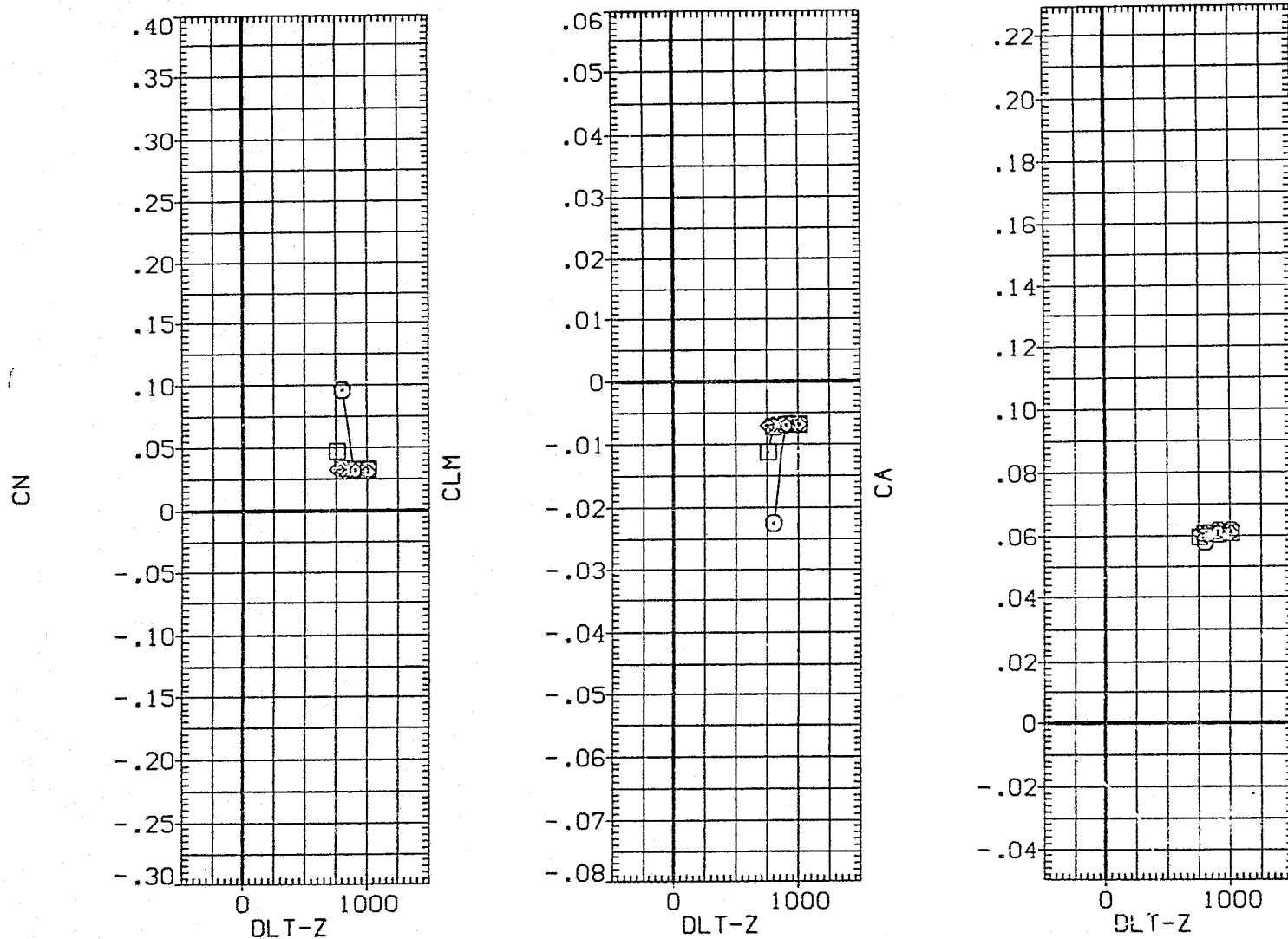


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR383)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.402	60.000	ALPHA	5.000
□	200.370	BETA	DLTALF	-20.000
◇	400.450	DLTBTA	MACH	7.980
		AILRON	ELEVON	.000
		GRID	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

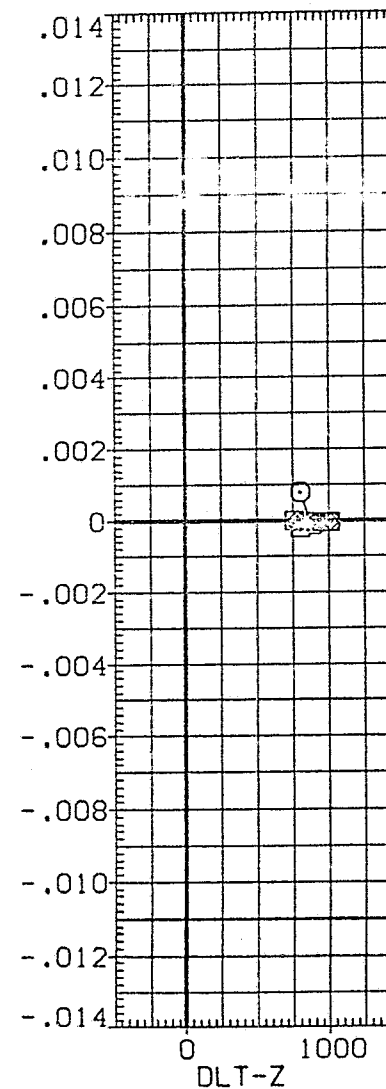
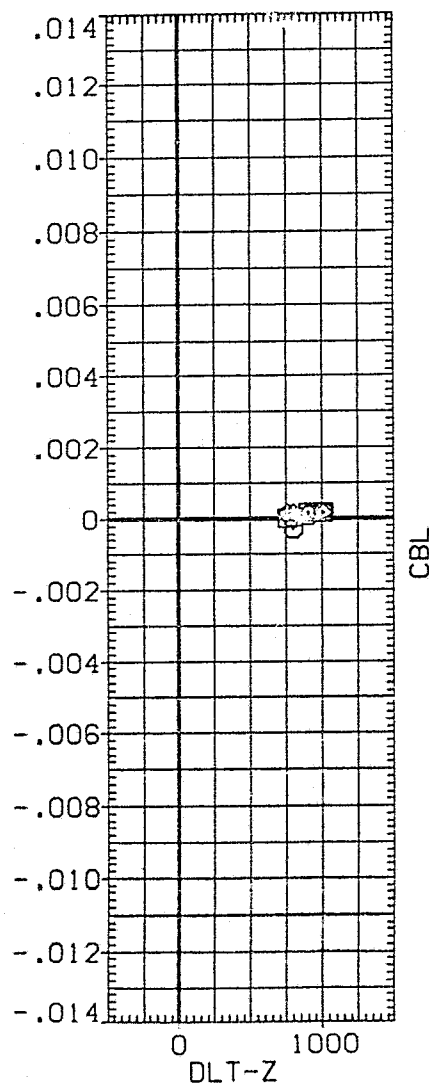
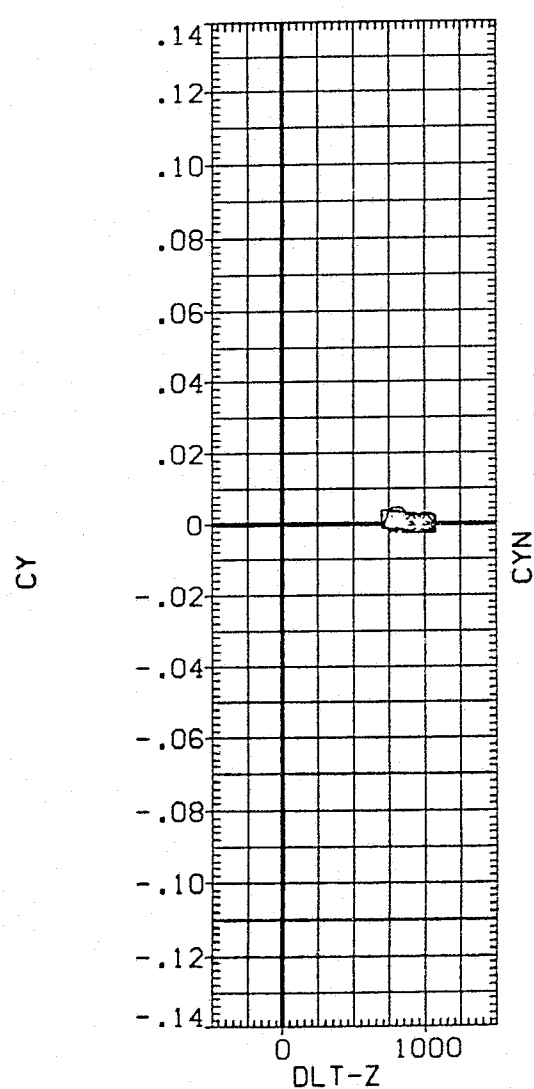


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR384)

SYMBOL

○
□

DLT-X
.516
200.560

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
60.000
.000
3.000
.000
24.000

ALPHA
DLTALF
MACH
ELEVON
PO

5.000
.000
7.980
.000
300.000

REFERENCE INFORMATION

SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

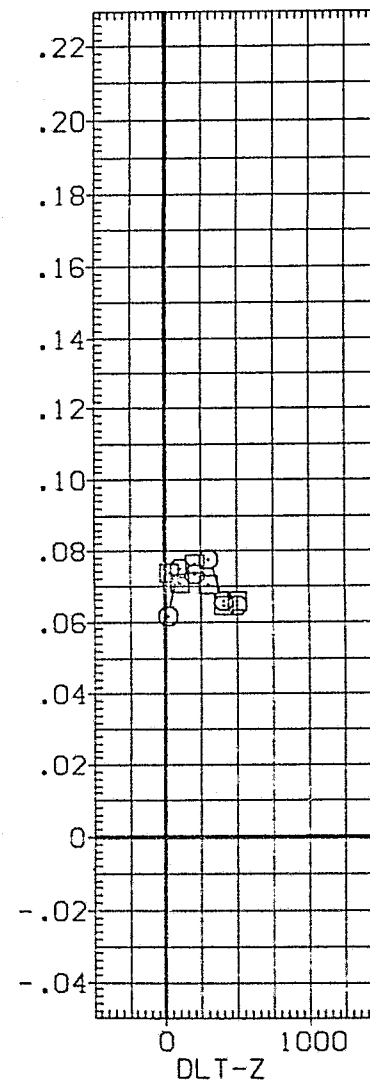
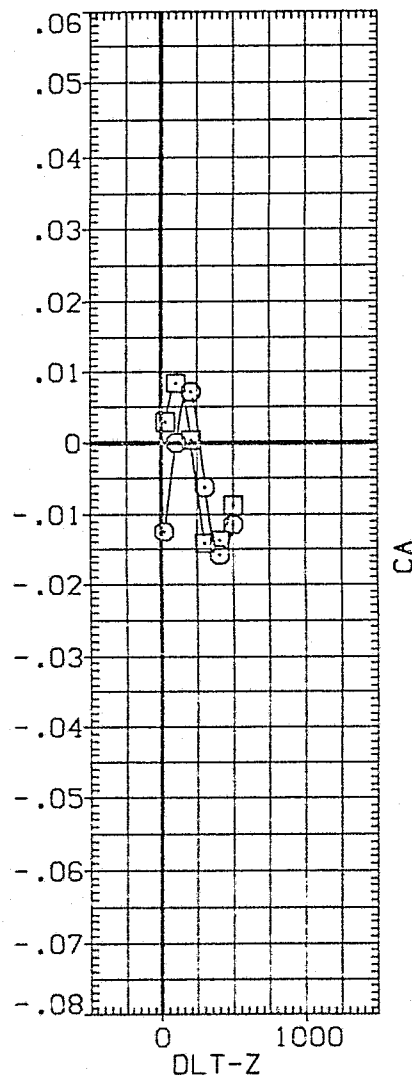
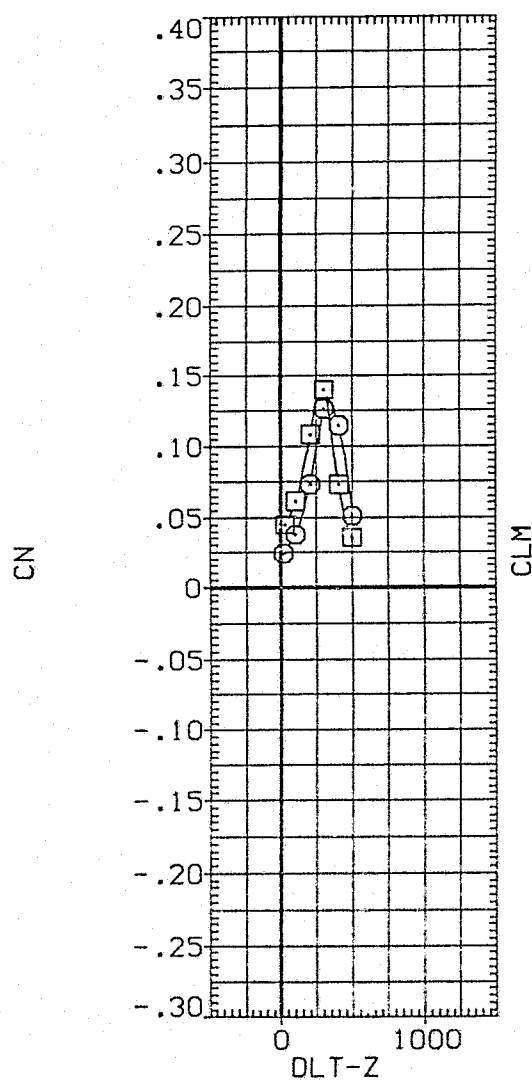


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR384)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.516	60.000	BETA	.000	DLTALF
□	200.560	3.000	DLTBT	.000	MACH
		.000	AILRON	.000	ELEVON
		24.000	GRID	300.000	PO

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

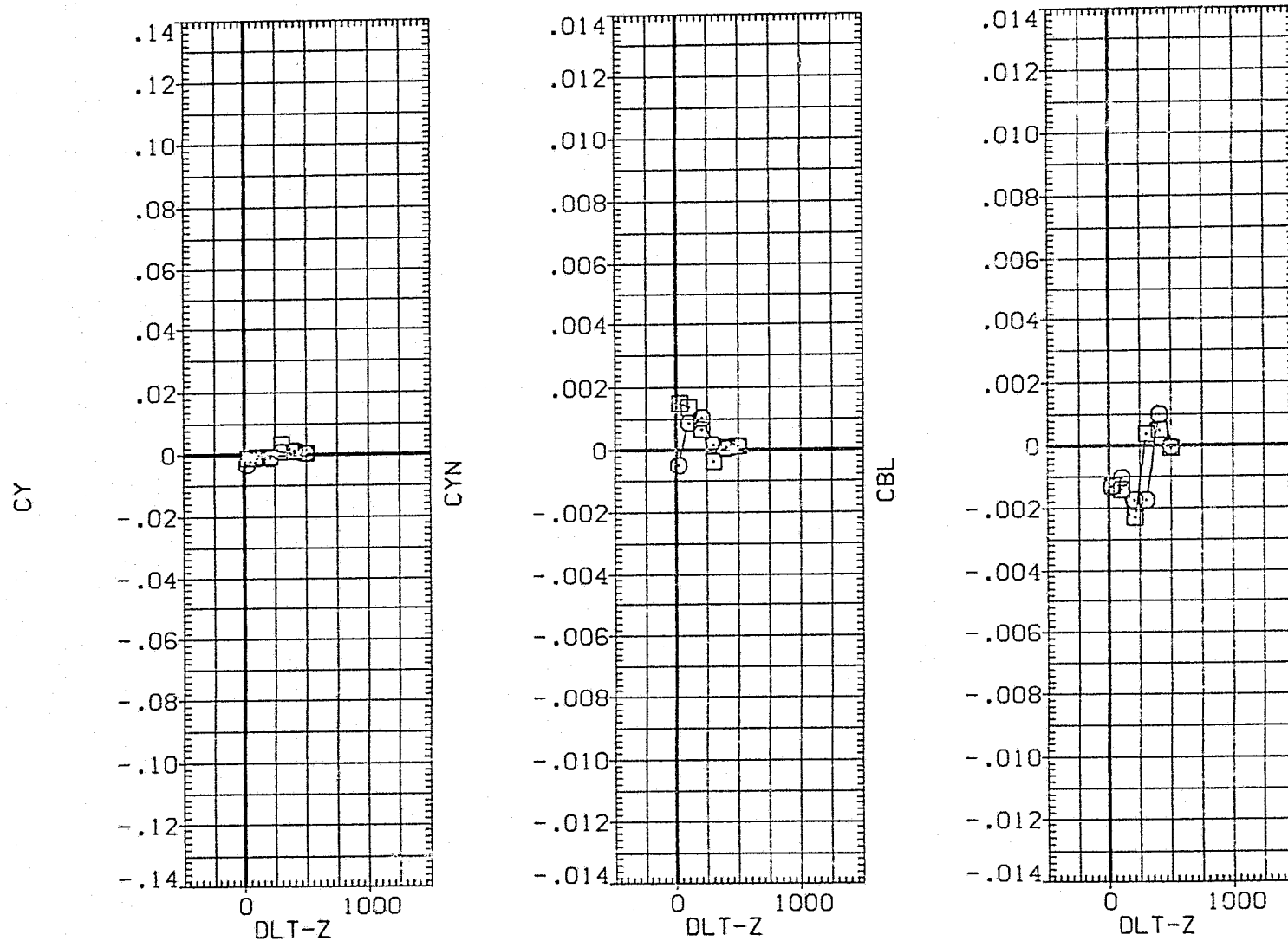


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR385)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.475	60.000	DLTALF	5.000
□	200.440	.000	MACH	-10.000
◇	400.350	3.000	ELEVON	7.980
		.000	PC	.000
		24.000		300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
REF	1290.3000	IN.
REF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

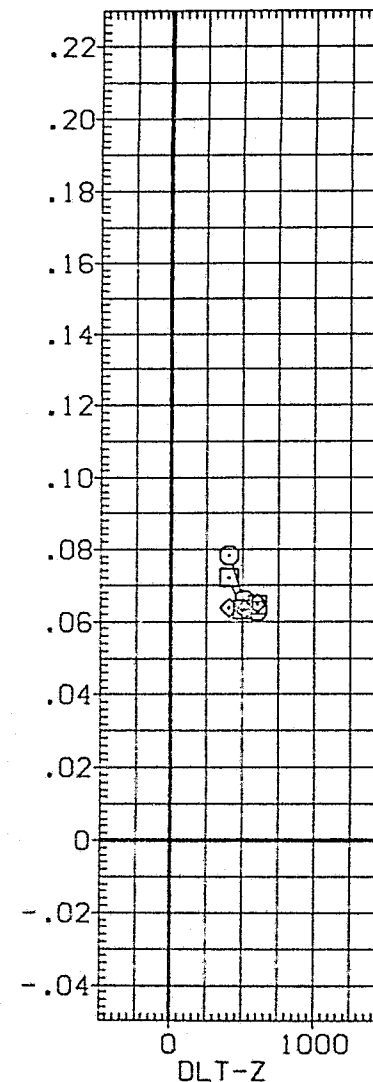
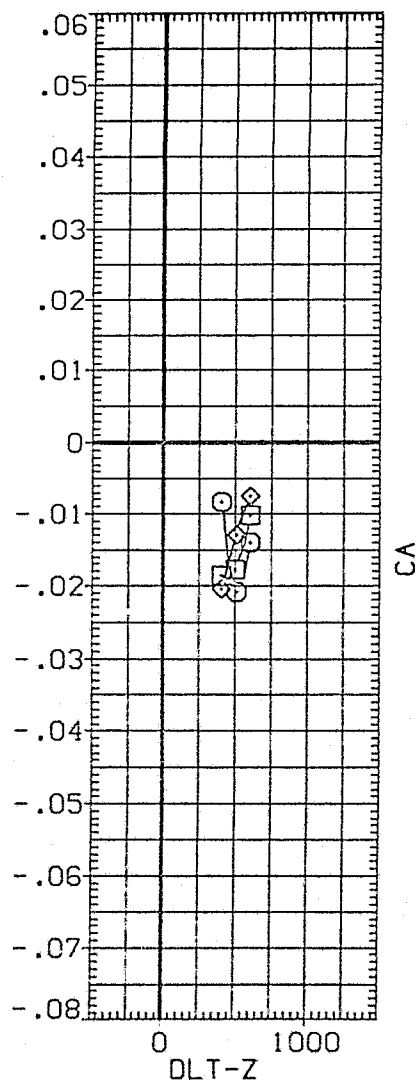
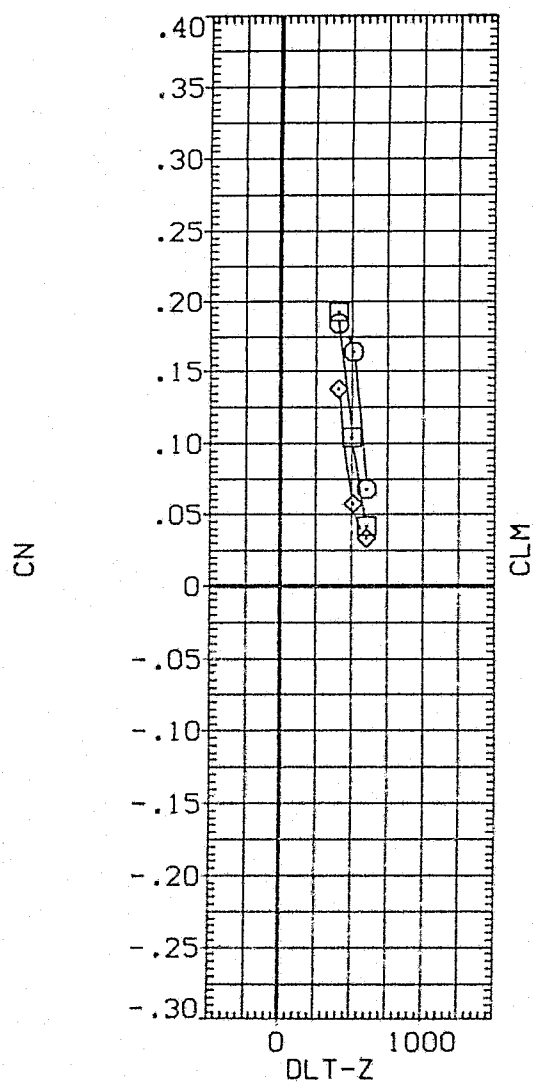


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR385)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	5.000
○	.475	60.000	DLTALF	-10.000	
□	200.440	BETA	.000	MACH	7.980
◇	400.350	DLTBTA	3.000	ELEVON	.000
		AILRON	.000	P0	300.000
		GRID	24.000		

REFERENCE INFORMATION	
SREF	.690.0000 SQ.FT.
LREF	.290.3000 IN.
BREF	.290.3000 IN.
XMRP	1089.6000 IN. XC
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

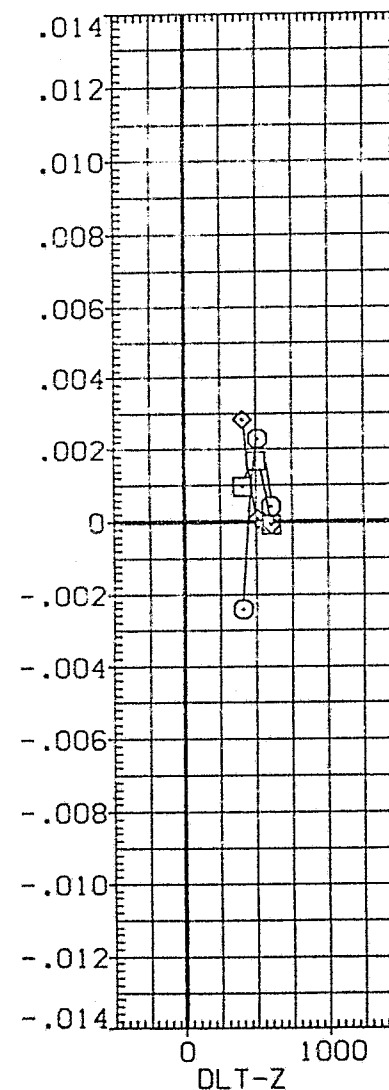
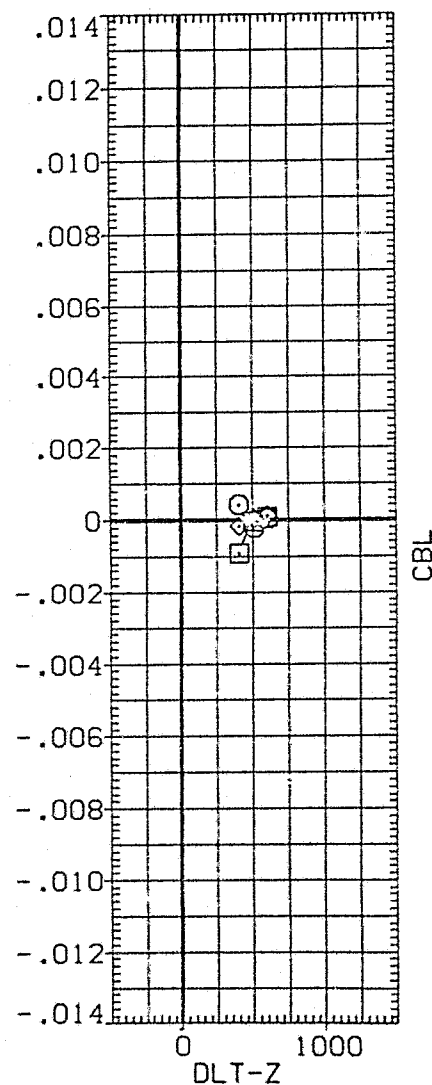
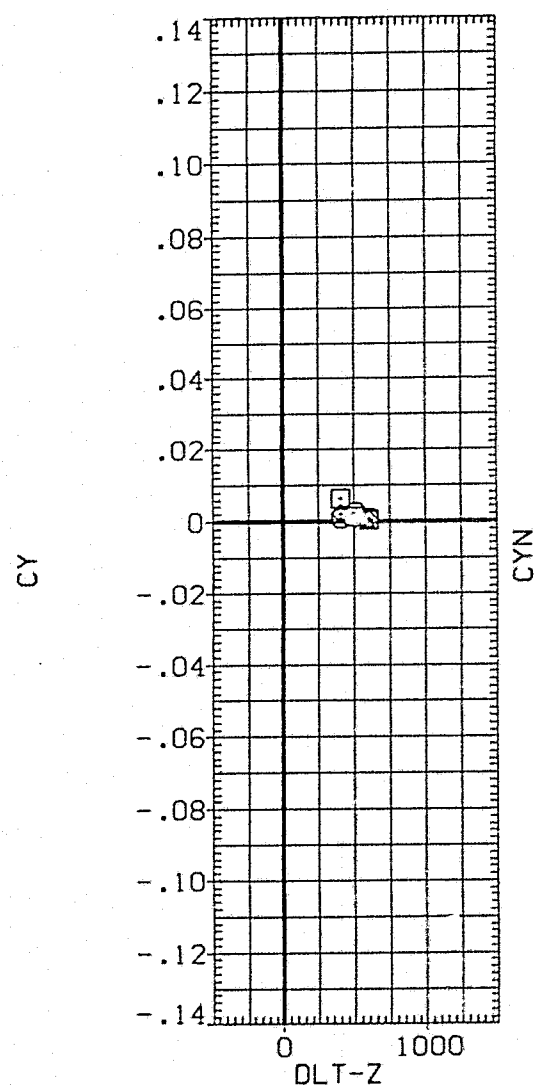


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR387)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.357	60.000	ALPHA	5.000	
□	200.360	.000	DLTALF	-20.000	
◇	400.390	3.000	MACH	7.980	
		.000	ELEVON	.000	
		24.000	PO	300.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

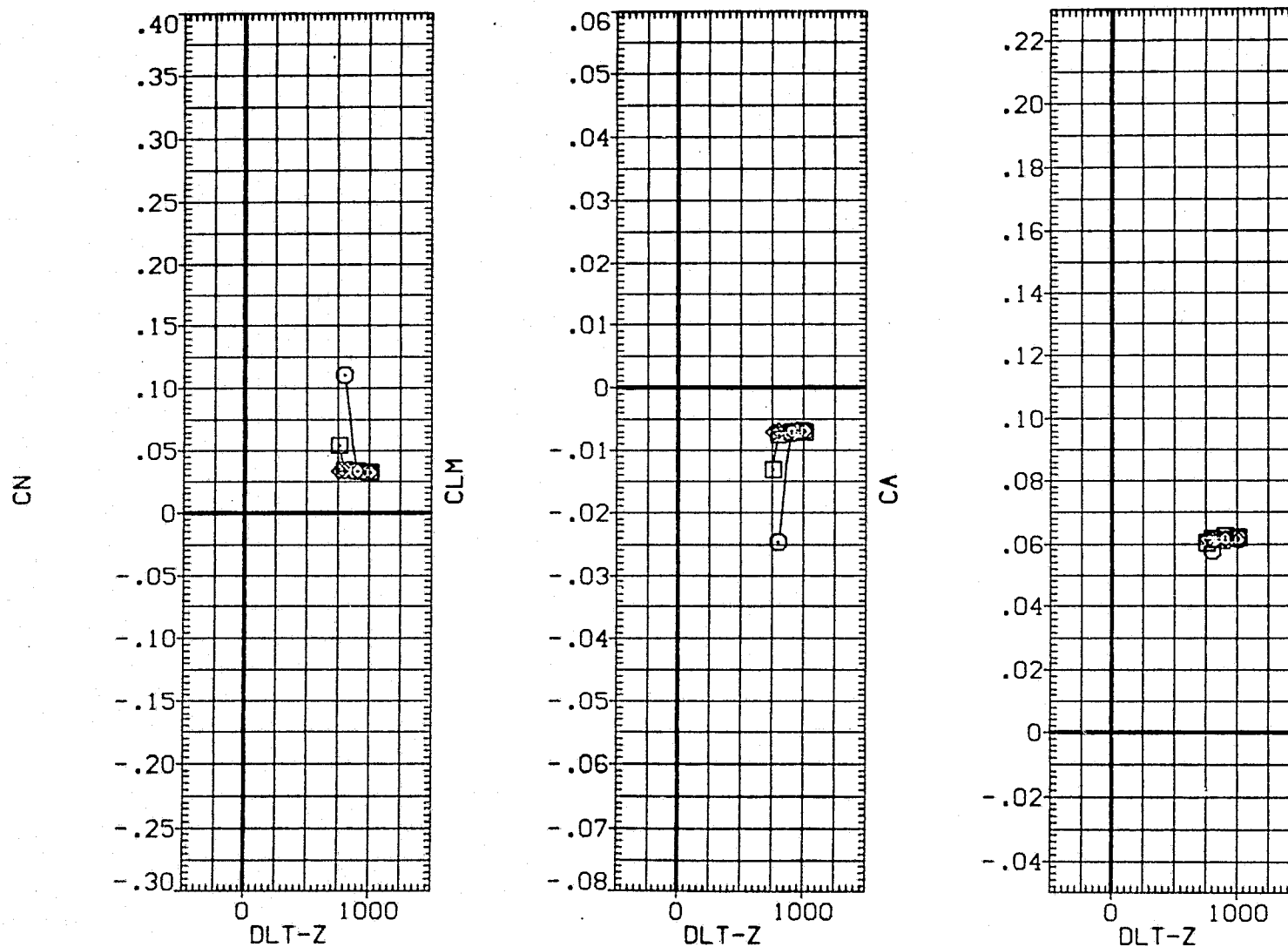


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR387)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.357	200.360	60.000	-20.000	7.980	.000
□	200.360	400.390	.000	3.000	.000	300.000
◇	400.390		.000			
			GRID	24.000	PO	

REFERENCE INFORMATION		
SREF	690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

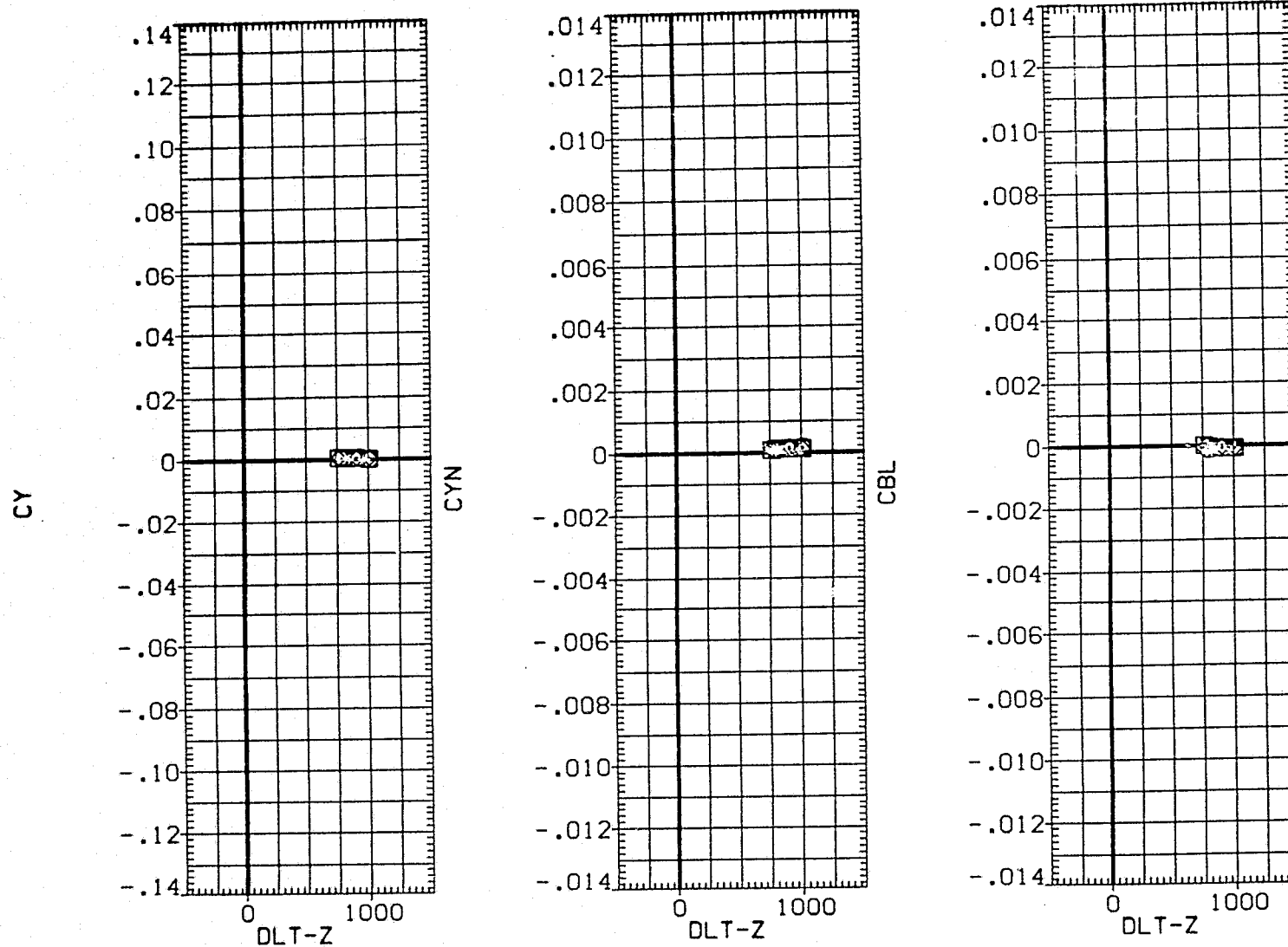


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR353)

SYMBOL		DLT-X		PARAMETRIC VALUES	
○		.650	DLT-Y	60.000	ALPHA 5.000
□		200.610	BETA	3.000	DLTALF .000
			DLTBTA	.000	MACH 7.980
			AILRON	.000	ELEVON .000
			GRID	25.000	PG 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

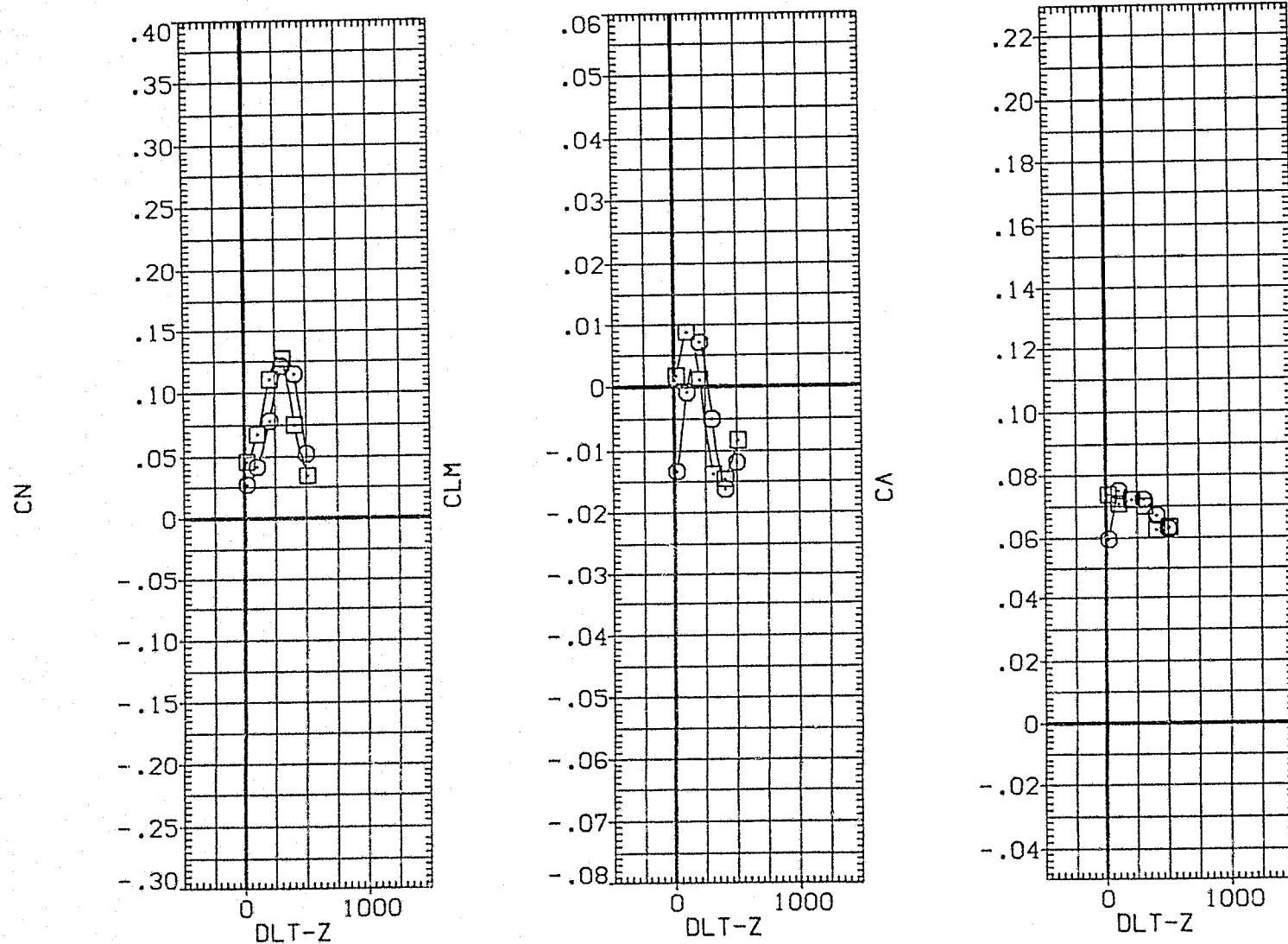


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR353)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.650	60.000	5.000			
□	200.610	3.000	.000			
	DLTBT	.000				
	AIRLON	.000				
	GRID	25.000	P0	420.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

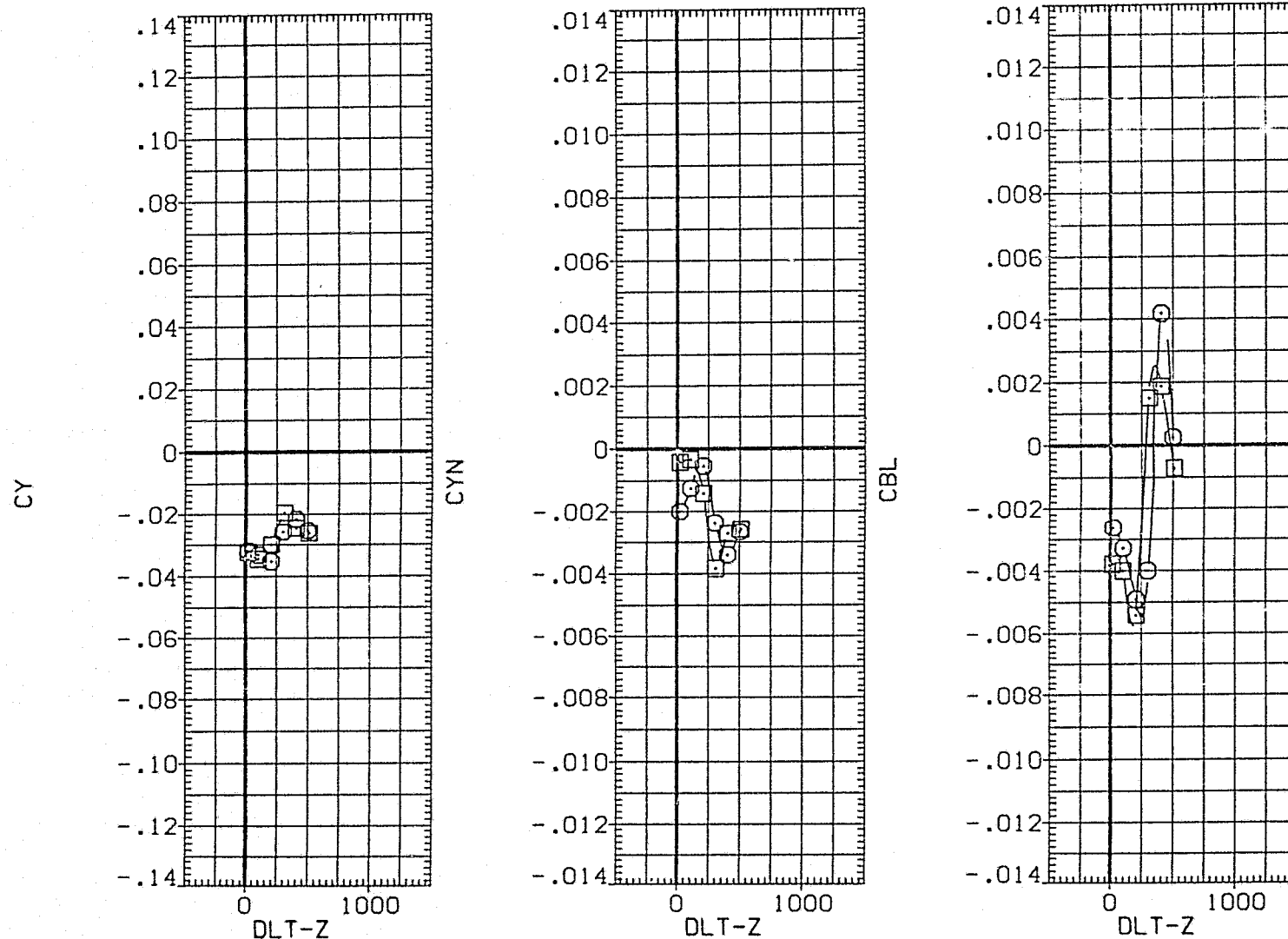


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR354)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.627	60.000	ALPHA 5.000
□	200.490	BETA 3.000	DLTALF -10.000
◇	400.530	DLTBT A .000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 25.000	P0 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

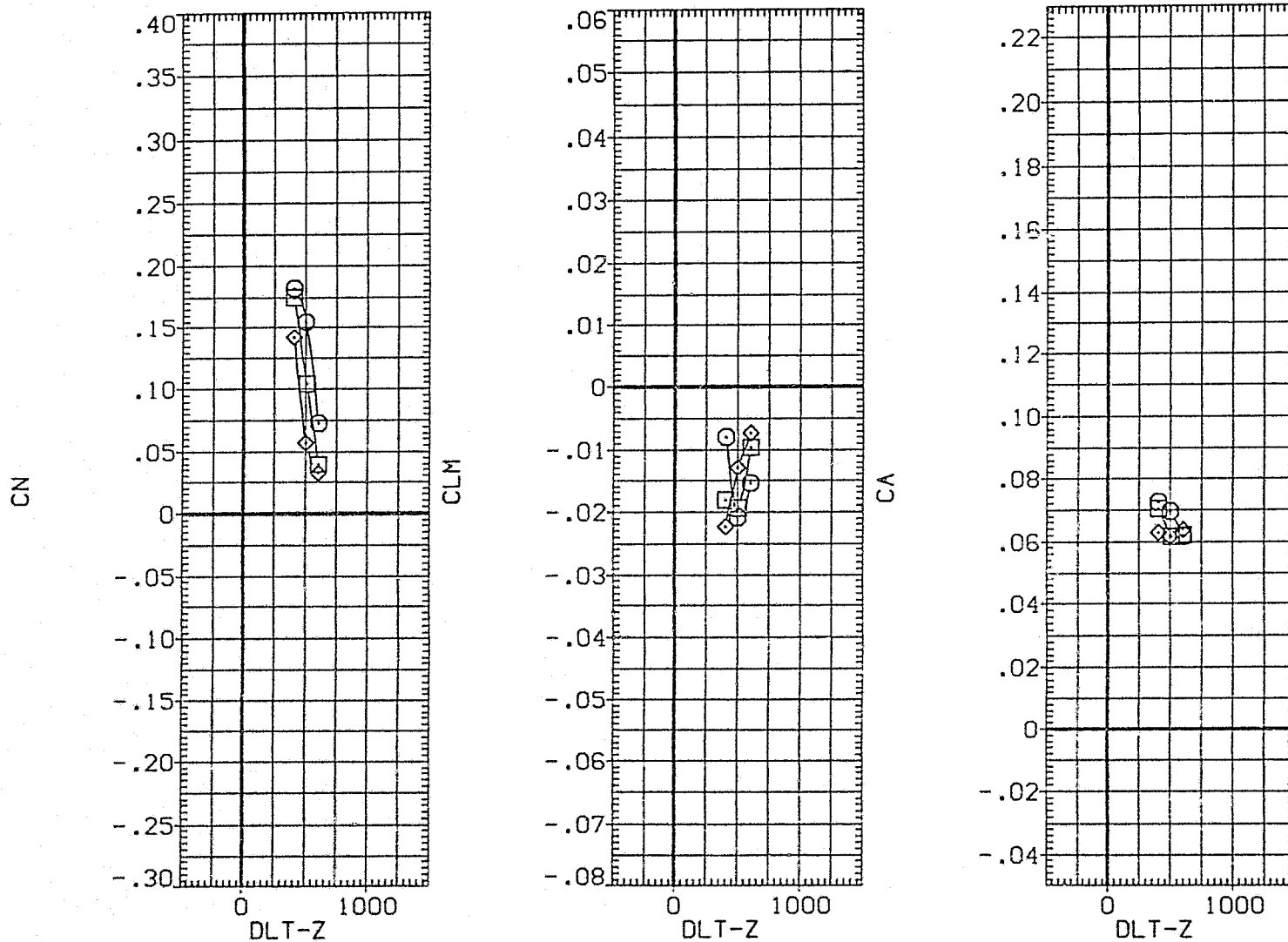


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR354)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.627		60.000	ALPHA 5.000
□	200.490	BETA	3.000	DLTALF -10.000
◇	400.530	DLTBTA	.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	25.000	P0 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

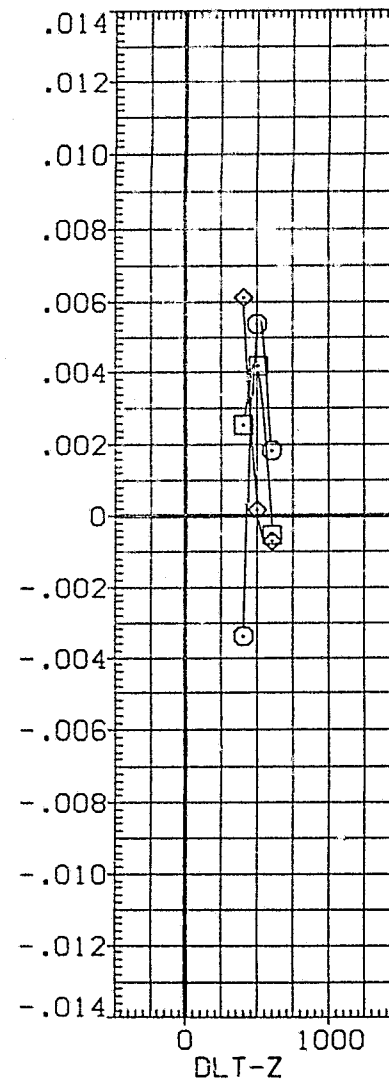
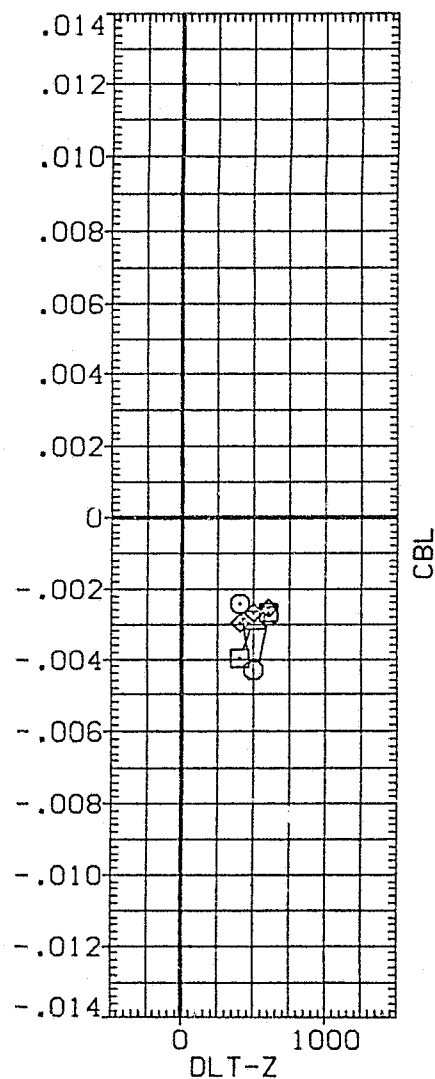
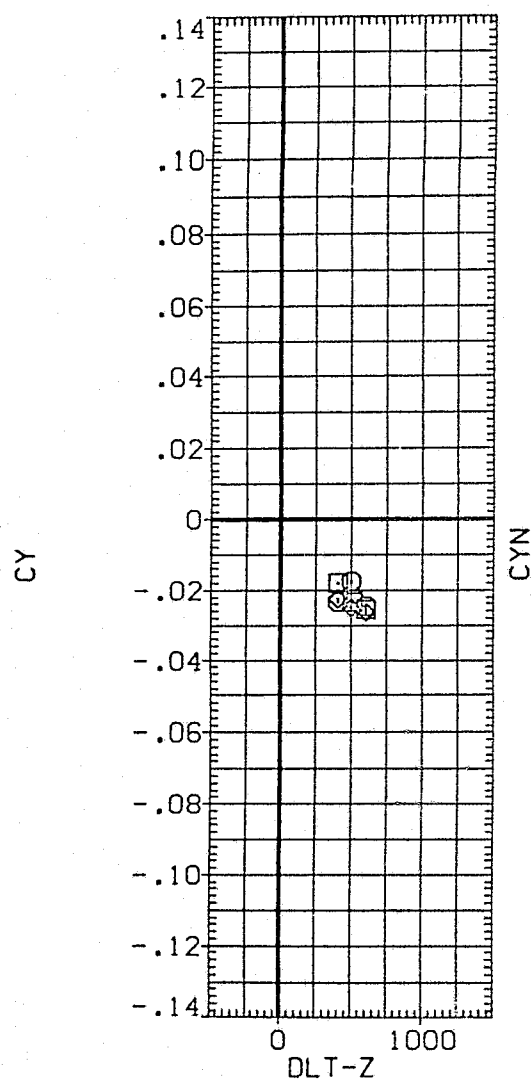


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR356)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.422	60.000	ALPHA 5.000
□	200.400	BETA 3.000	DLTALF -20.000
◇	400.560	DLTBTA .000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 25.000	PG 420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

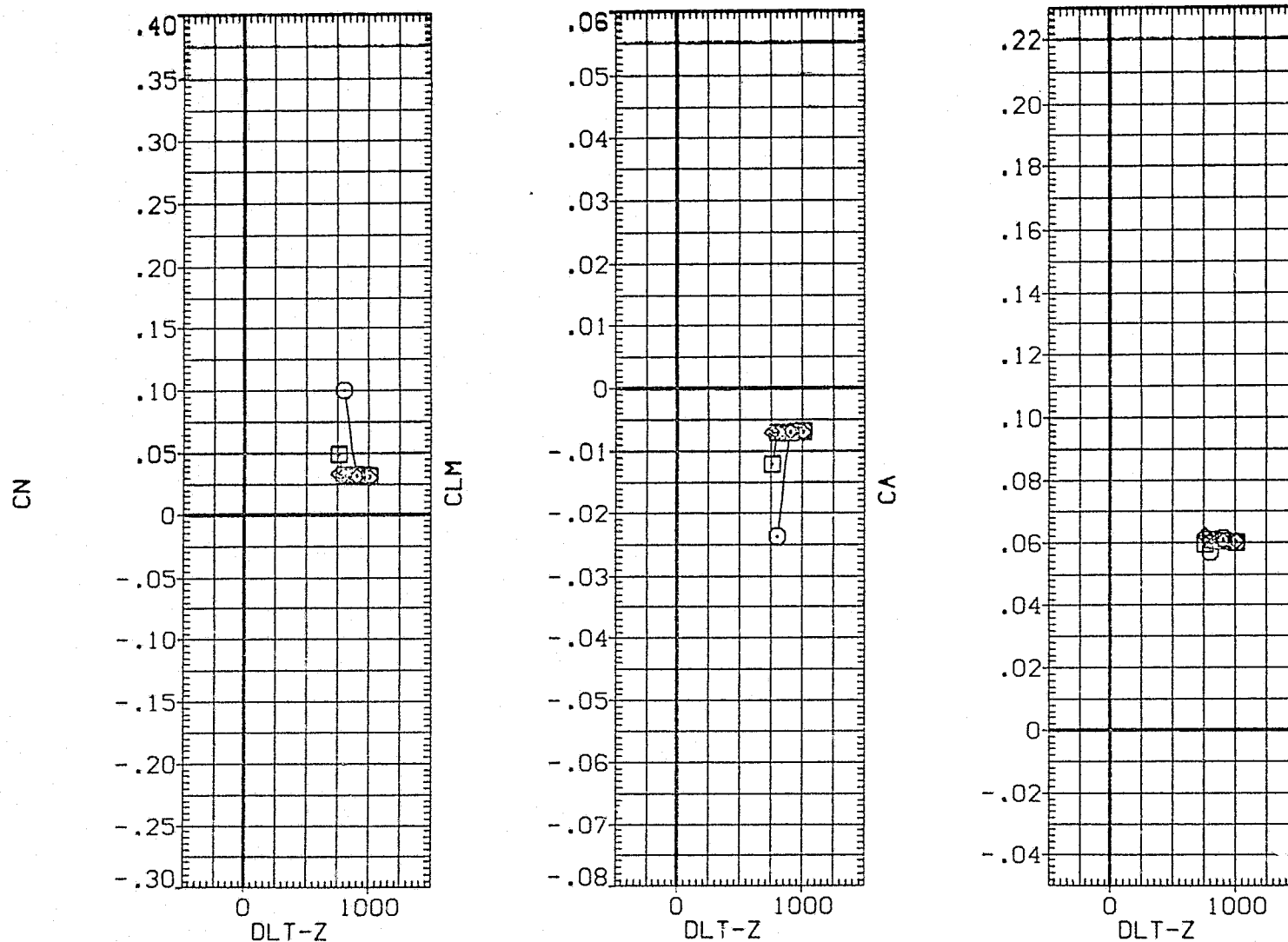


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR356)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	60.000	ALPHA	5.000
□	.422	BETA	3.000	DLTALF	-20.000
◇	200.400	DLTBTA	.000	MACH	7.980
	400.560	AILRON	.000	ELEVON	.000
		GRID	25.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

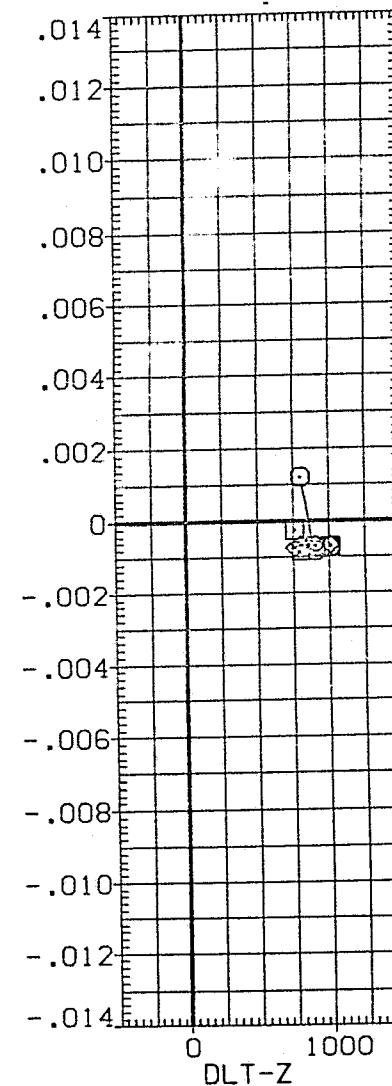
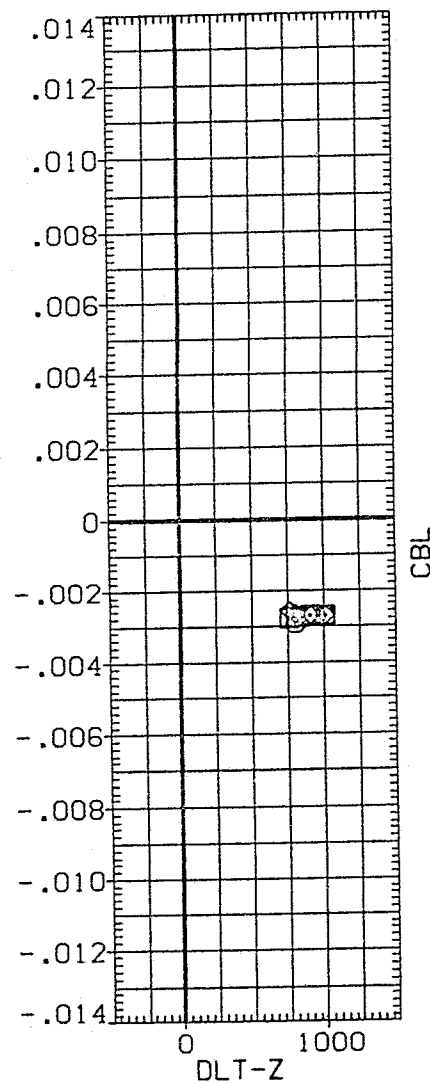
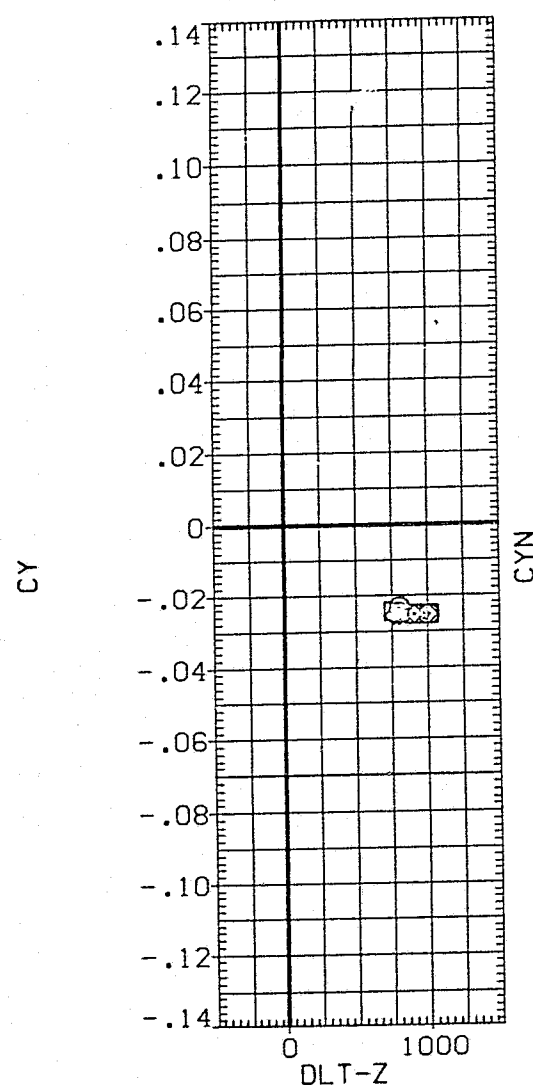


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR357)

SYMBOL	DLT-X		PARAMETRIC VALUES		
○	.540	DLT-Y	60.000	ALPHA	5.000
□	200.540	BETA	3.000	DLTALF	.000
		DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	25.000	PO	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

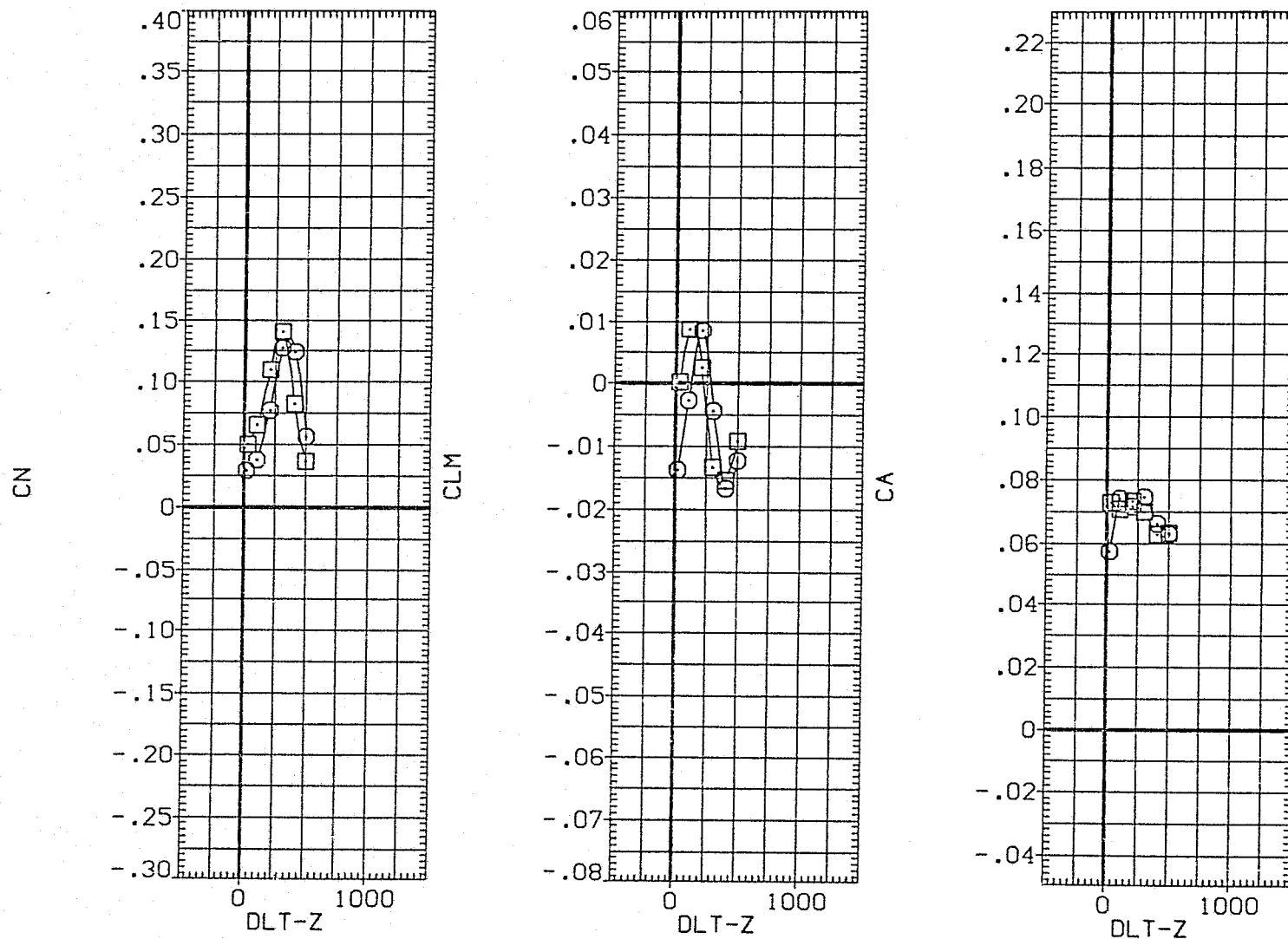


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR357)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.540	60.000	ALPHA	5.000	
□	200.540	BETA	3.000	DLTALF	.000
		DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	25.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

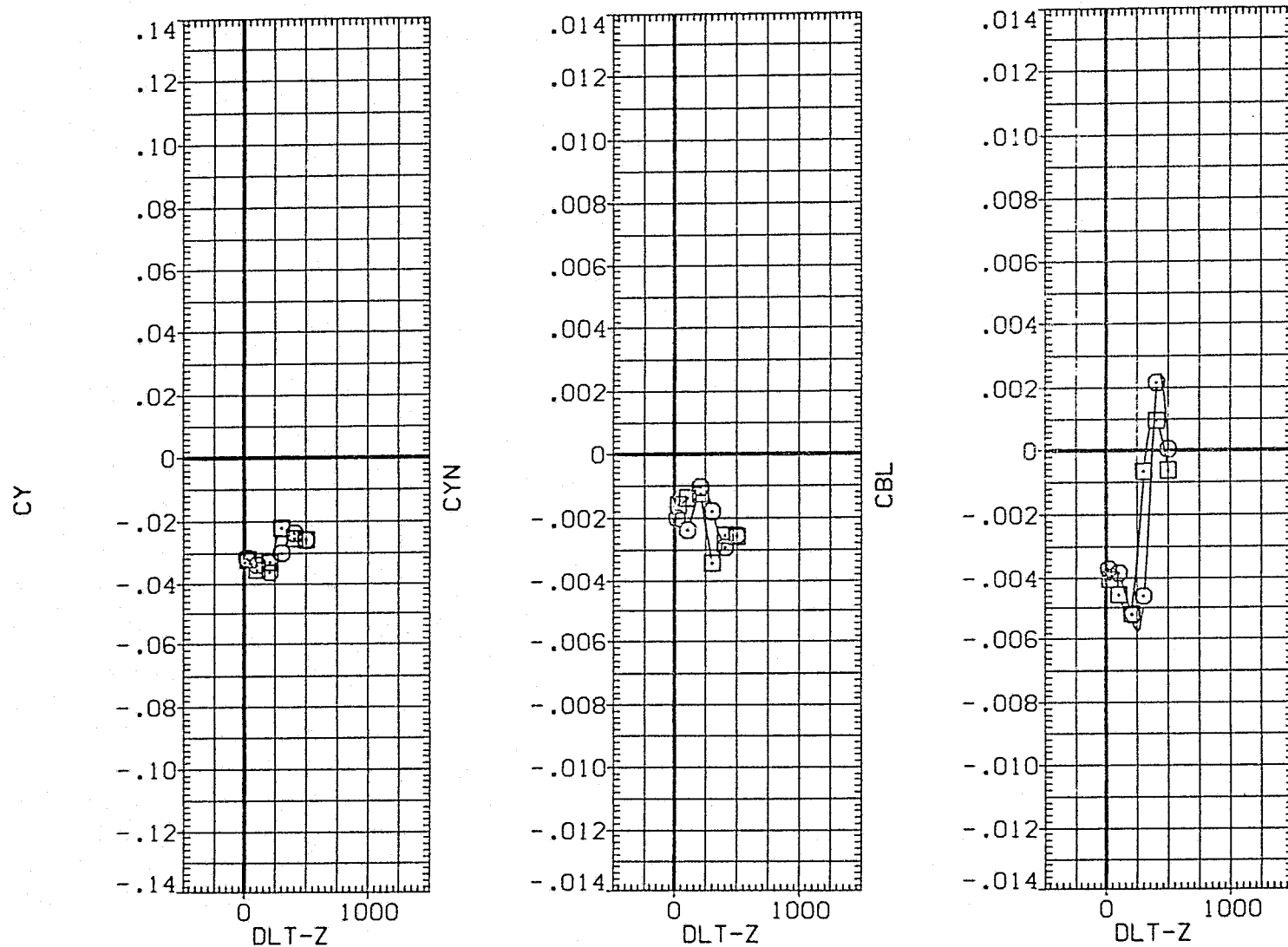


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR358)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.483	60.000	DLTALF	5.000
□	200.520	3.000	MACH	-10.000
◇	400.480	3.000	ELEVON	7.980
		.000	P0	.000
		25.000		420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

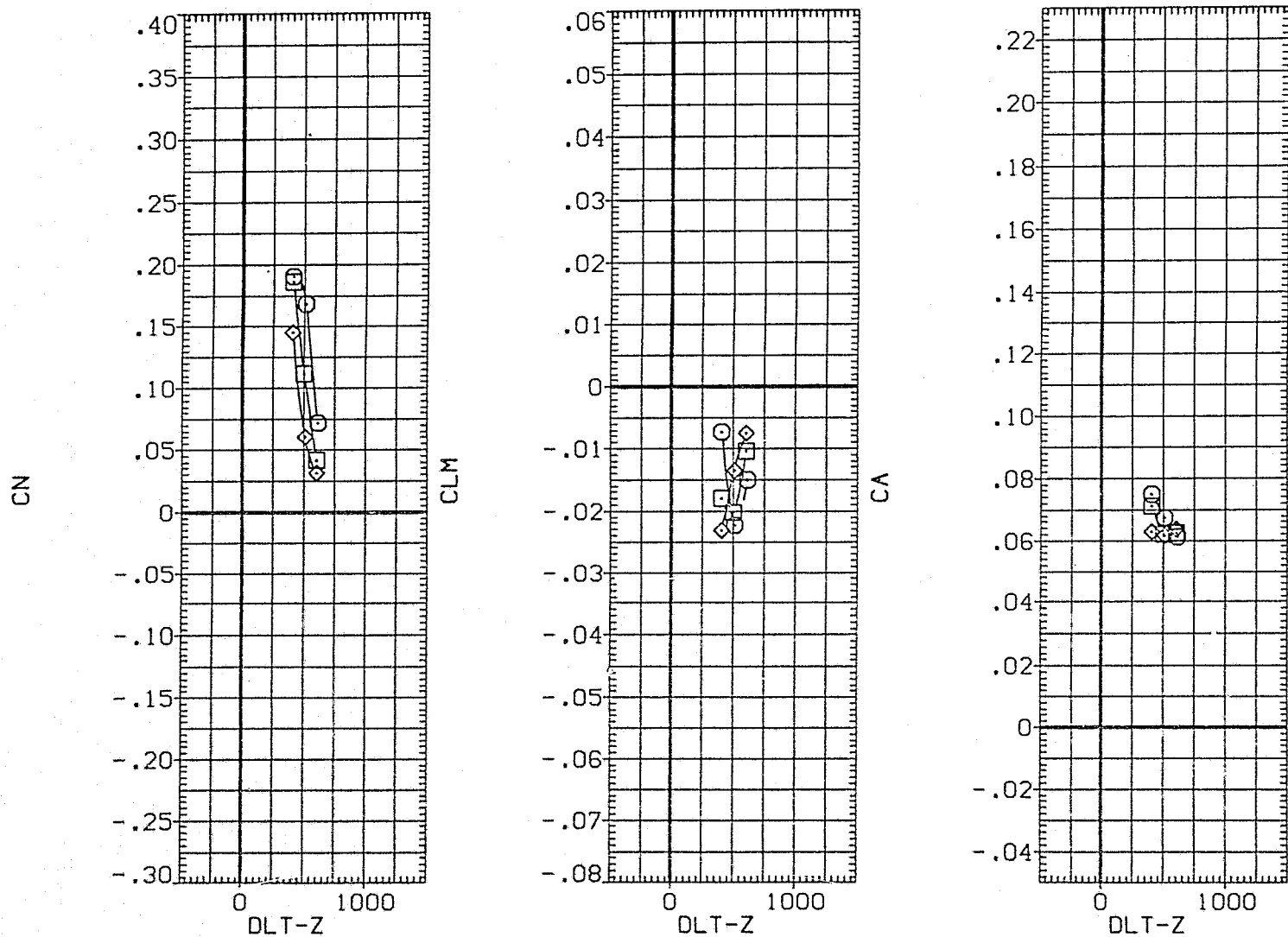


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR358)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.483	60.000	60.000	5.000	
□	200.520	BETA	3.000	DLTALF	-10.000
◇	400.480	DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	25.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

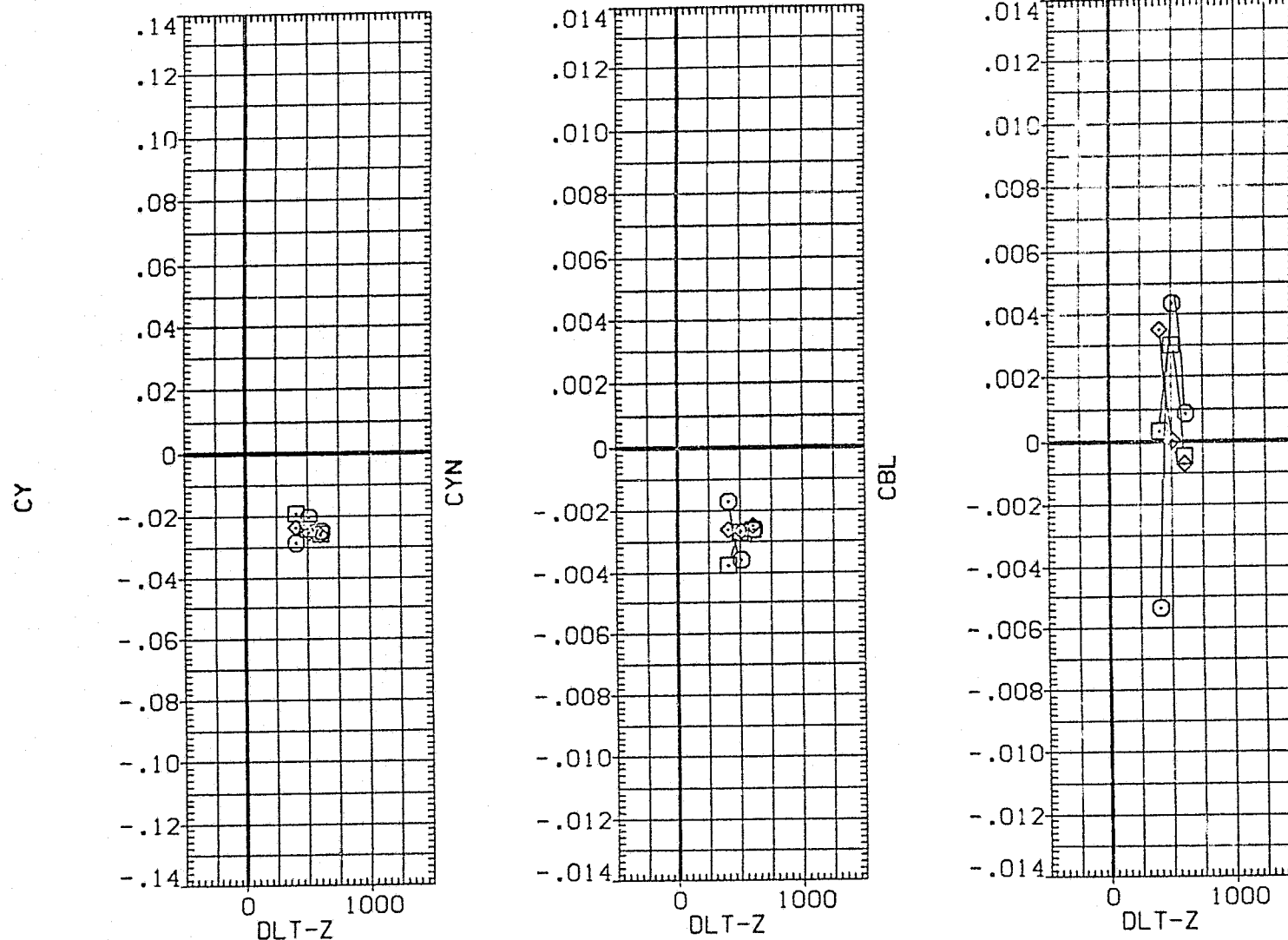


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR360)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.536	60.000	3.000	5.000	
□	200.490	BETA	3.000	DLTALF	-20.000
◇	400.560	DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	25.000	P0	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

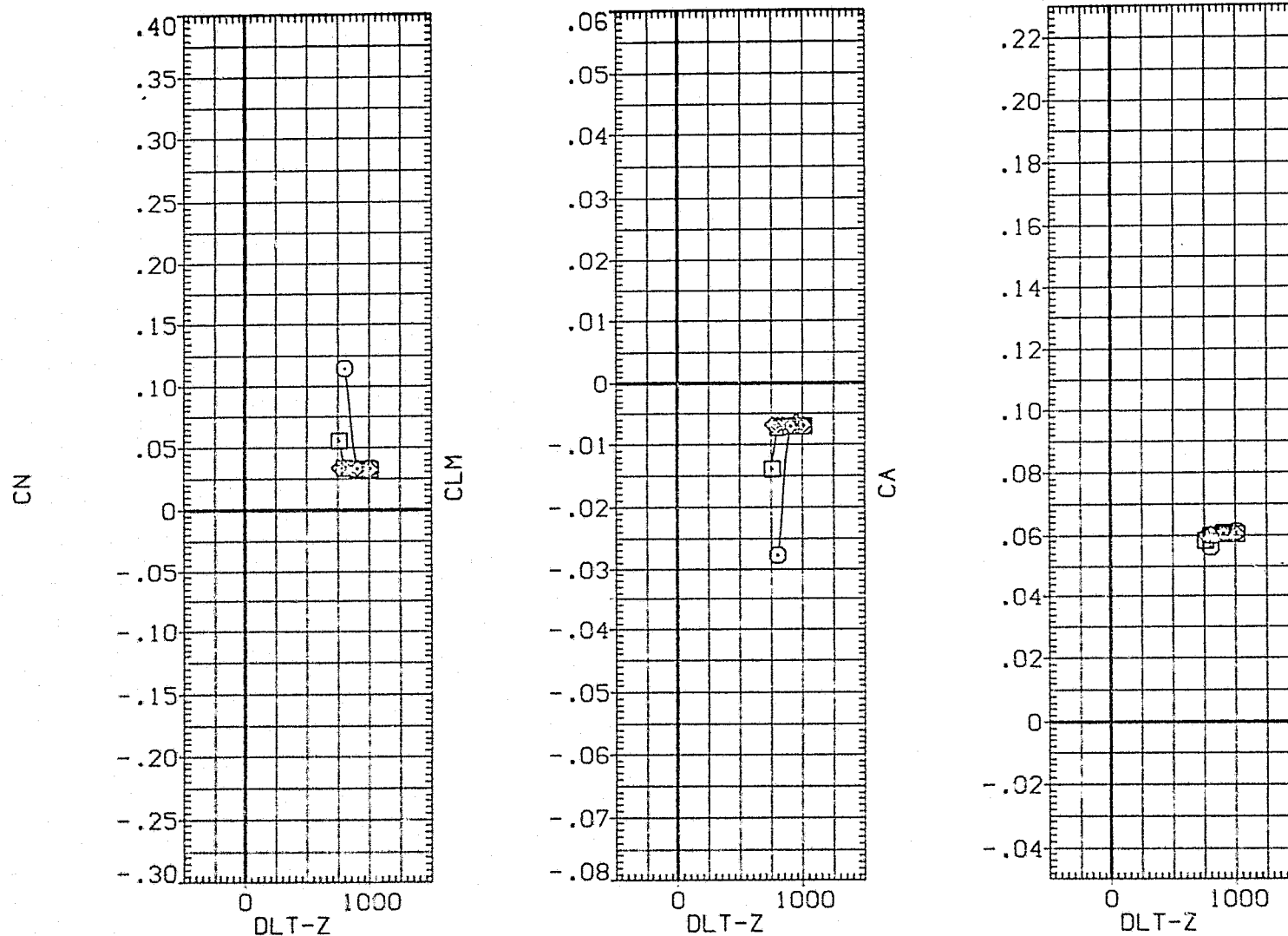


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR360)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	5.000
○	.536	60.000	DLTALF	-20.000	
□	200.490	BETA 3.000	MACH	7.980	
◇	400.560	DLTBT A 3.000	ELEVON	.000	
		AILRON .000	PQ	420.000	
		GRID 25.000			

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

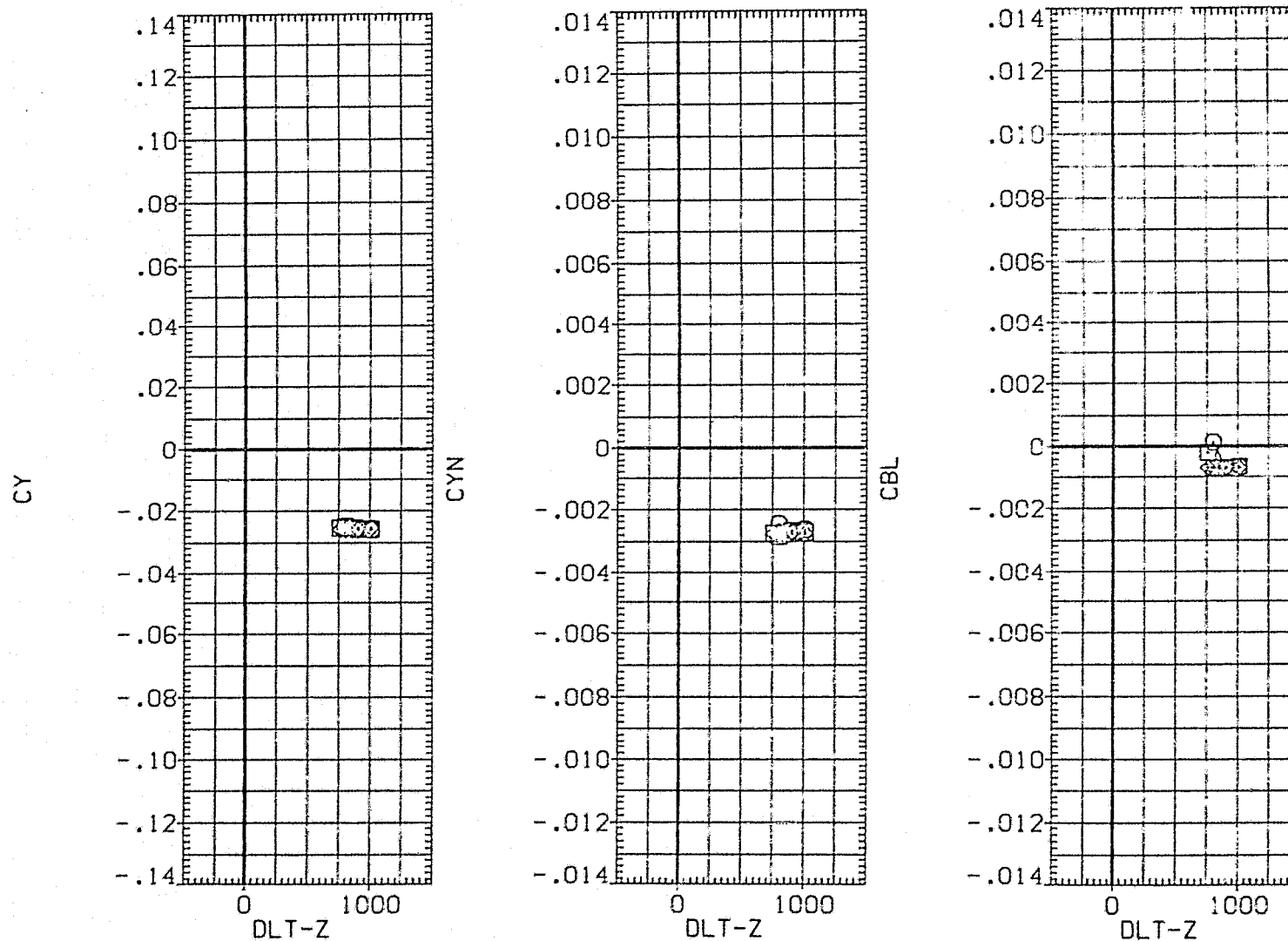


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR372)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.532	60.000	ALPHA	-5.000
□	200.480	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

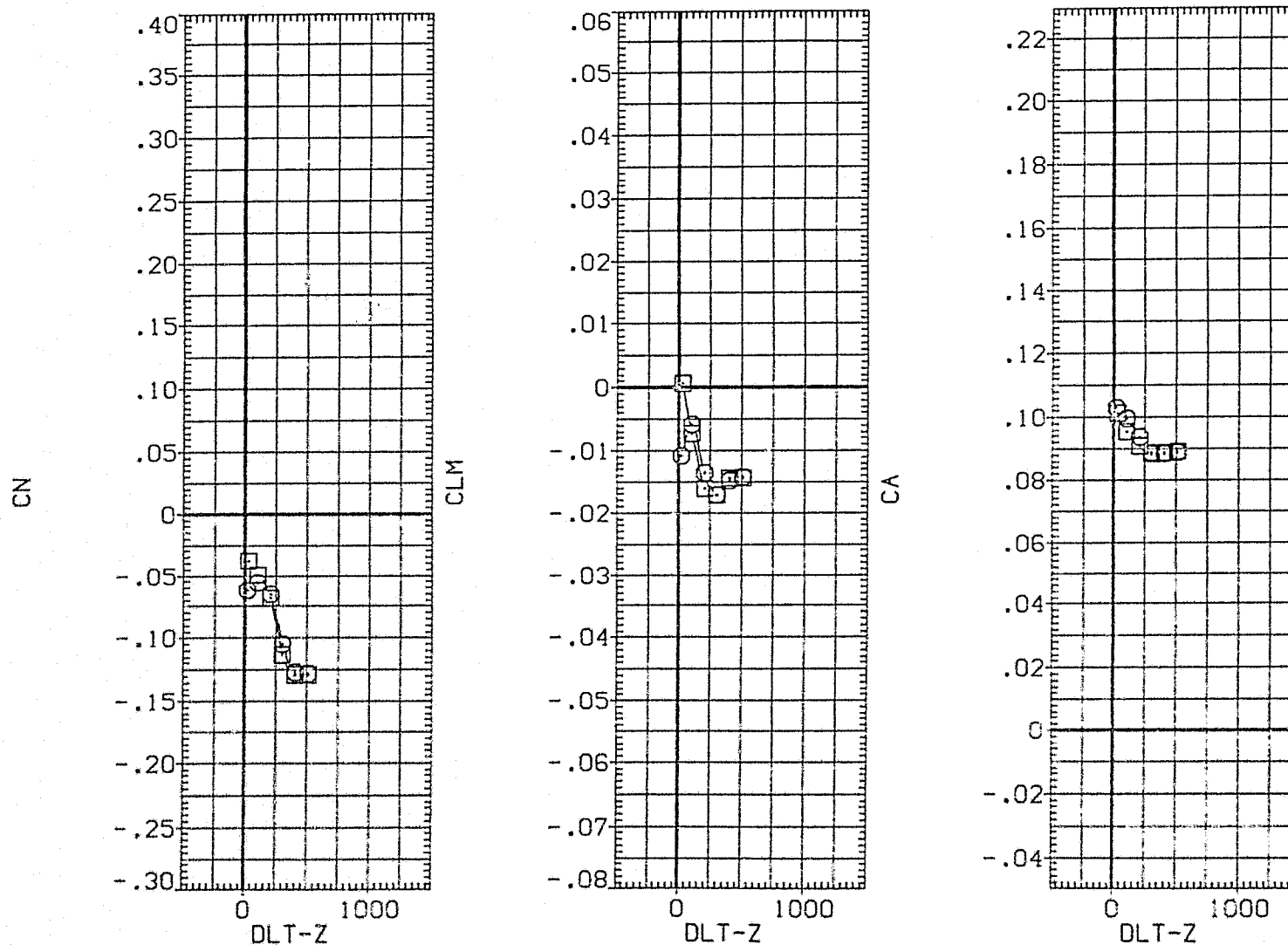


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR372)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	60.000	ALPHA	-5.000
□	.532	BETA	.000	DLTALF	.000
	200.480	DLTBT A	.000	MACH	7.980
		AIRON	.000	ELEVON	.000
		GRID	19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

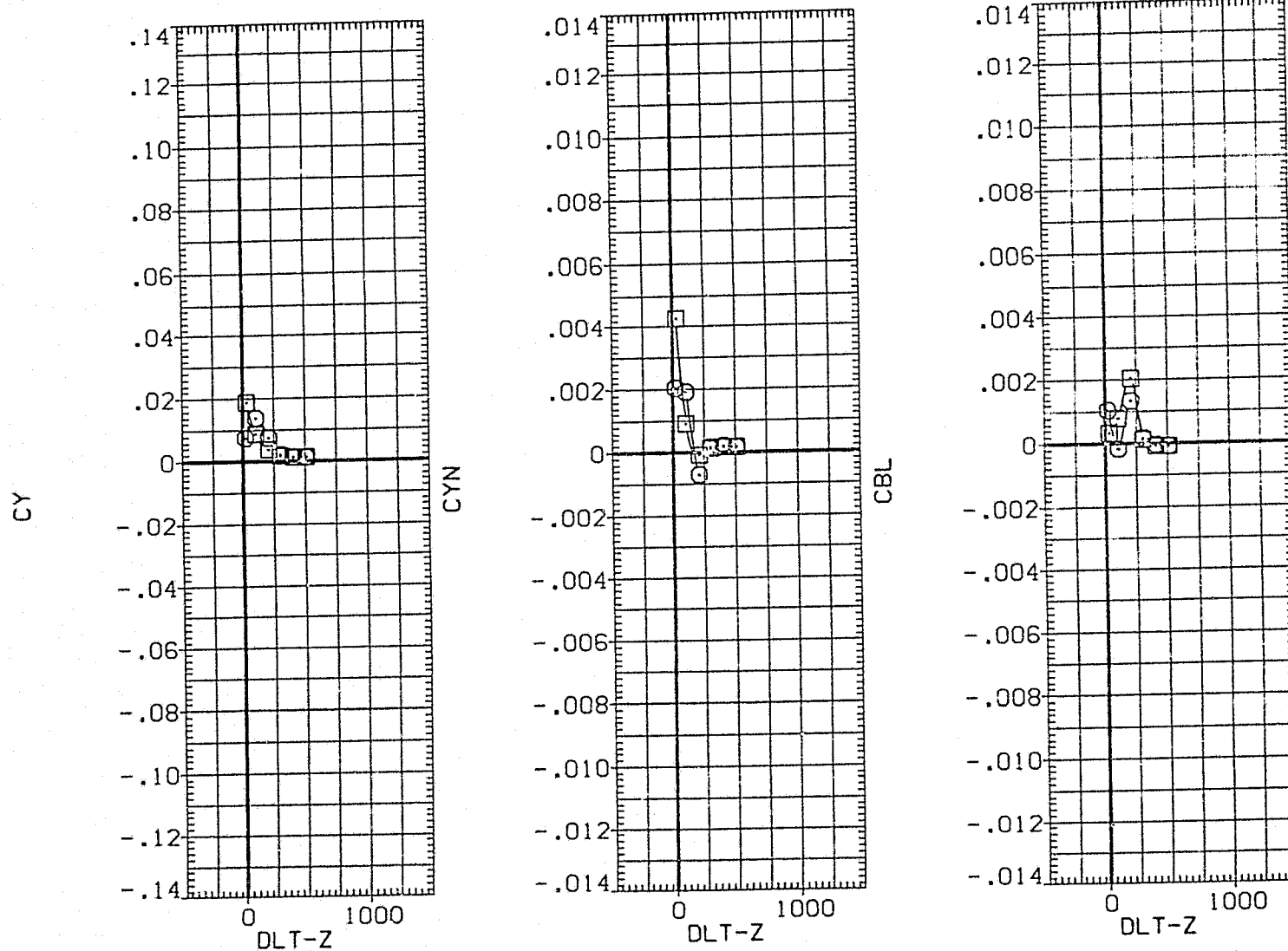


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR373)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.453	60.000	BETA	-5.000
□	200.460	.000	DLTALF	-10.000
◇	400.510	.000	MACH	7.980
		.000	ELEVON	.000
		19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

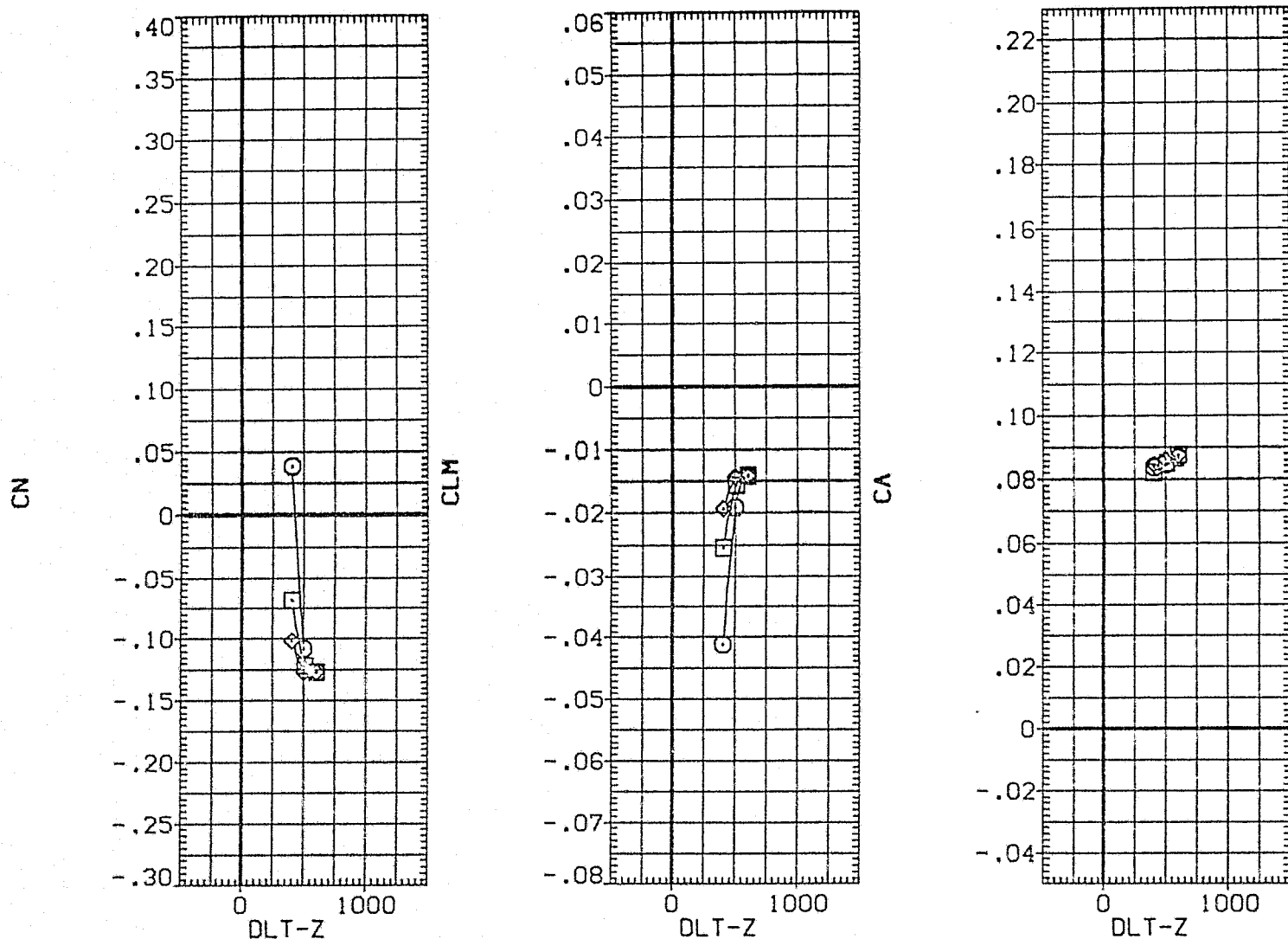


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR373)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.453	60.000	DLTALF	-5.000
□	200.460	.000	MACH	-10.000
◇	400.510	.000	ELEVON	7.980
		19.000	P0	.000
				300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

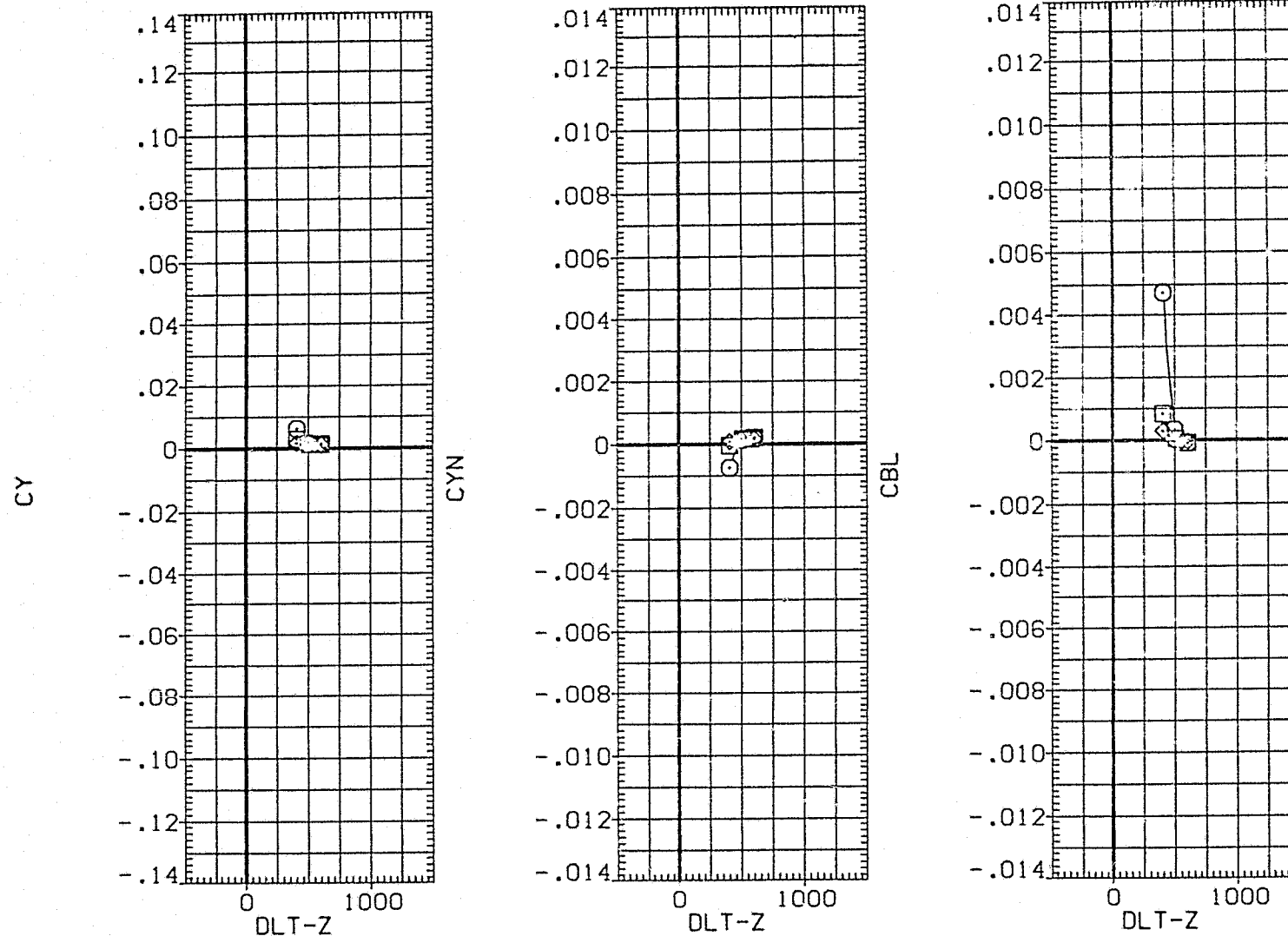


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR375)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.413	60.000	DLTALF	-5.000	
□	200.430	.000	MACH	-20.000	
◇	400.390	.000	ELEVON	7.980	
		.000	P0	.000	
		19.000		300.000	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

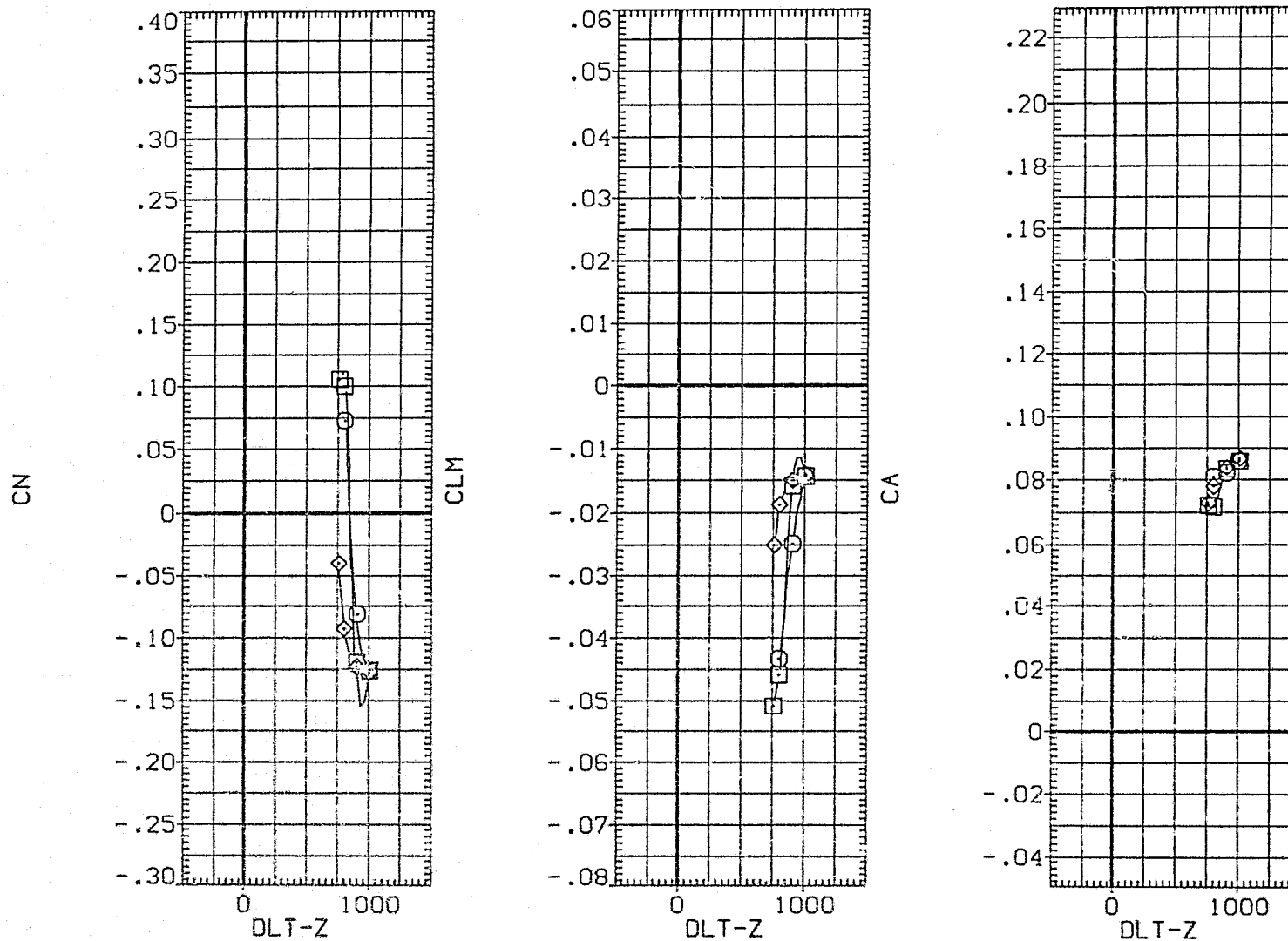


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR375)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.413	60.000	DLTALF	-5.000	
□	200.430	.000	MACH	-20.000	
◇	400.390	.000	ELEVON	7.980	
		.000	GRID	.000	
		19.000	PO	300.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1230.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

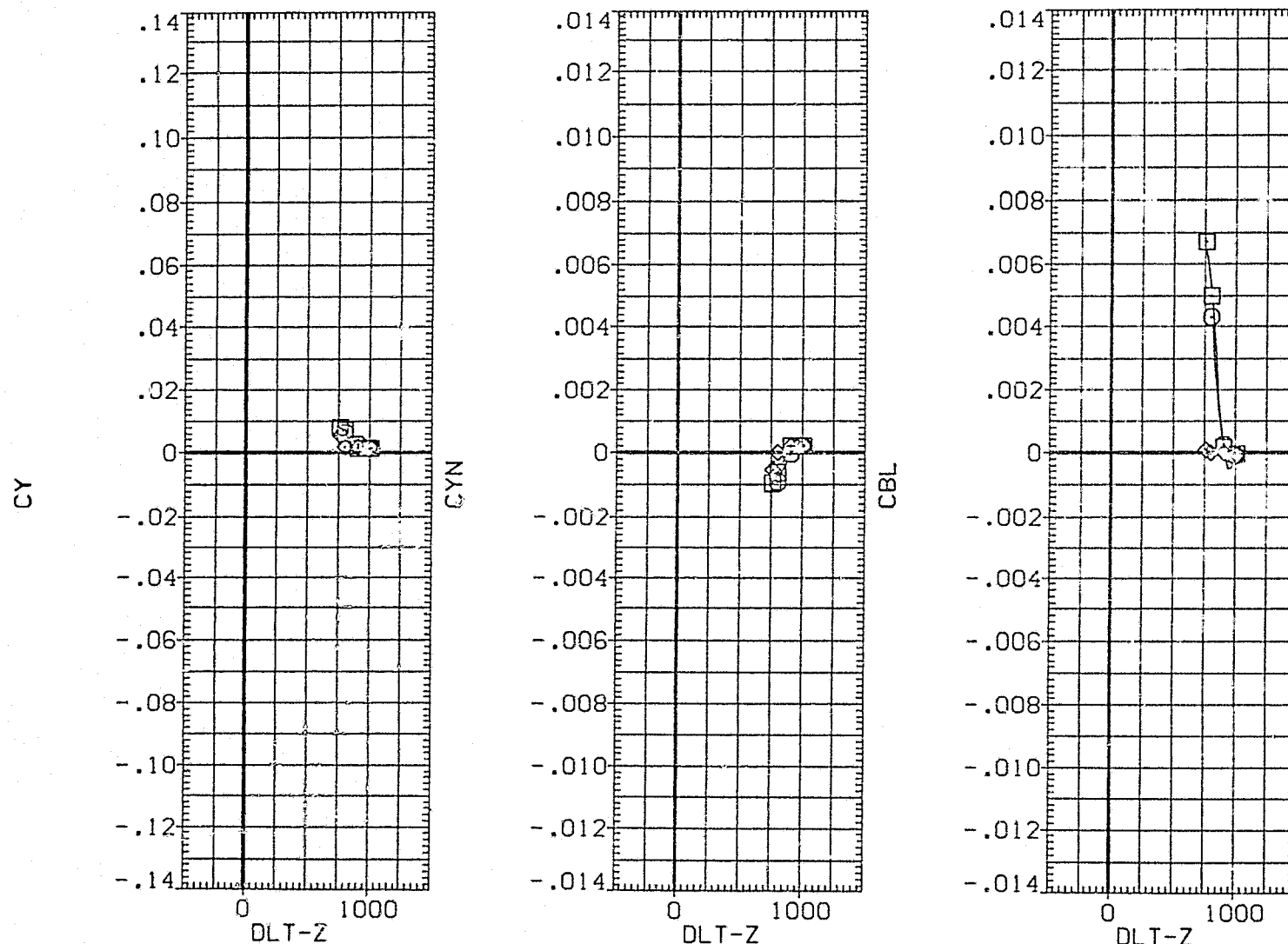


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR376)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.572	BETA	60.000	-5.000	
□	200.530	DLTBTA	.000	.000	
		AILRON	3.000	7.980	
		GRID	.000	ELEVON	.000
			19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

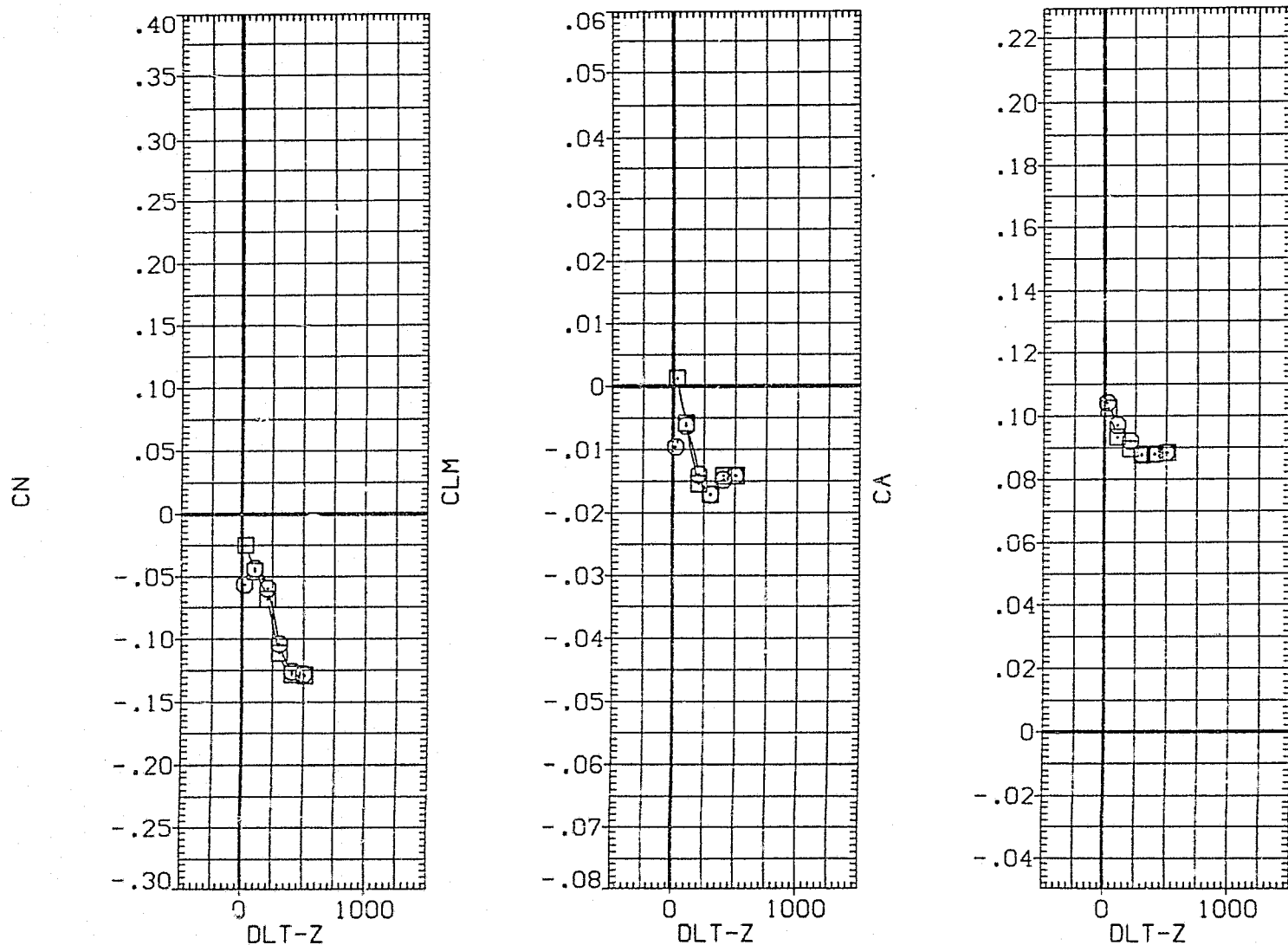


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR376)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	60.000	ALPHA	-5.000
○	.572	BETA	.000	DLTALF	.000
□	200.530	DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XC
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

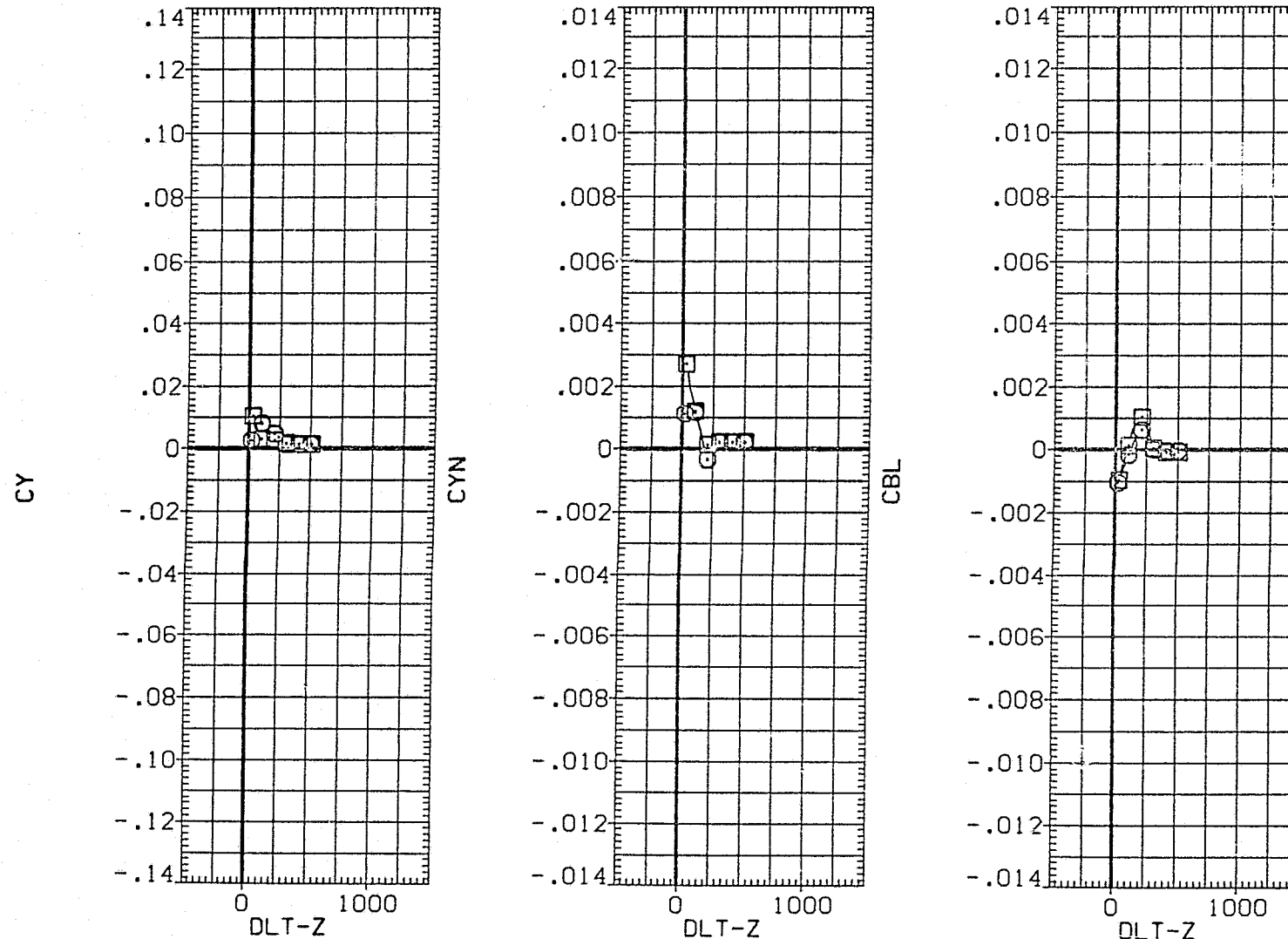


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR377)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.502	60.000	ALPHA	-5.000
□	200.510	.000	DLTALF	-10.000
◇	400.480	3.000	MACH	7.980
		.000	ELEVON	.000
		19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

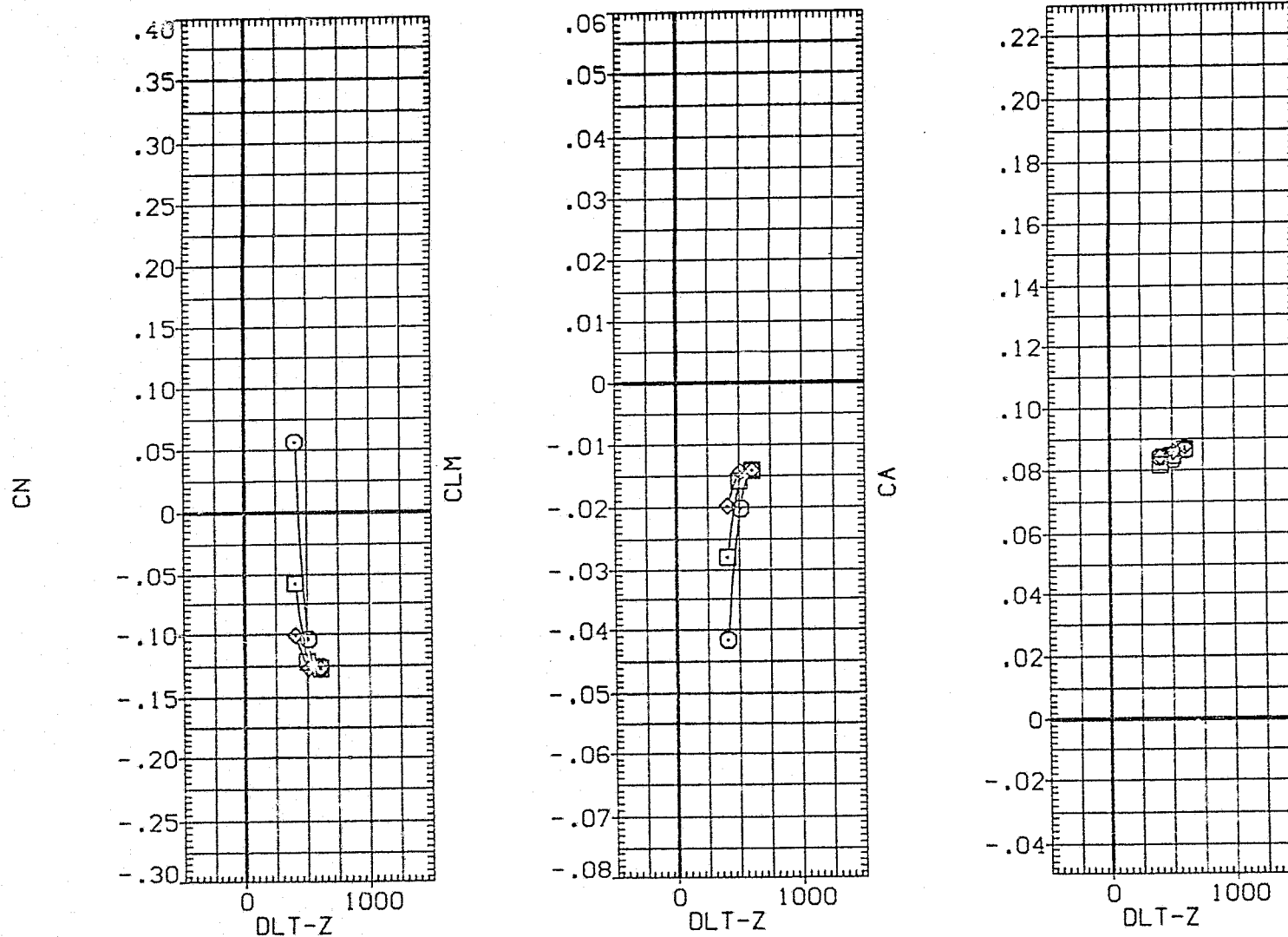


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR377)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.502	60.000	ALPHA	-5.000
□	200.510	.000	DLTALF	-10.000
◇	400.480	3.000	MACH	7.980
		.000	ELEVON	.000
		19.000	P0	300.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

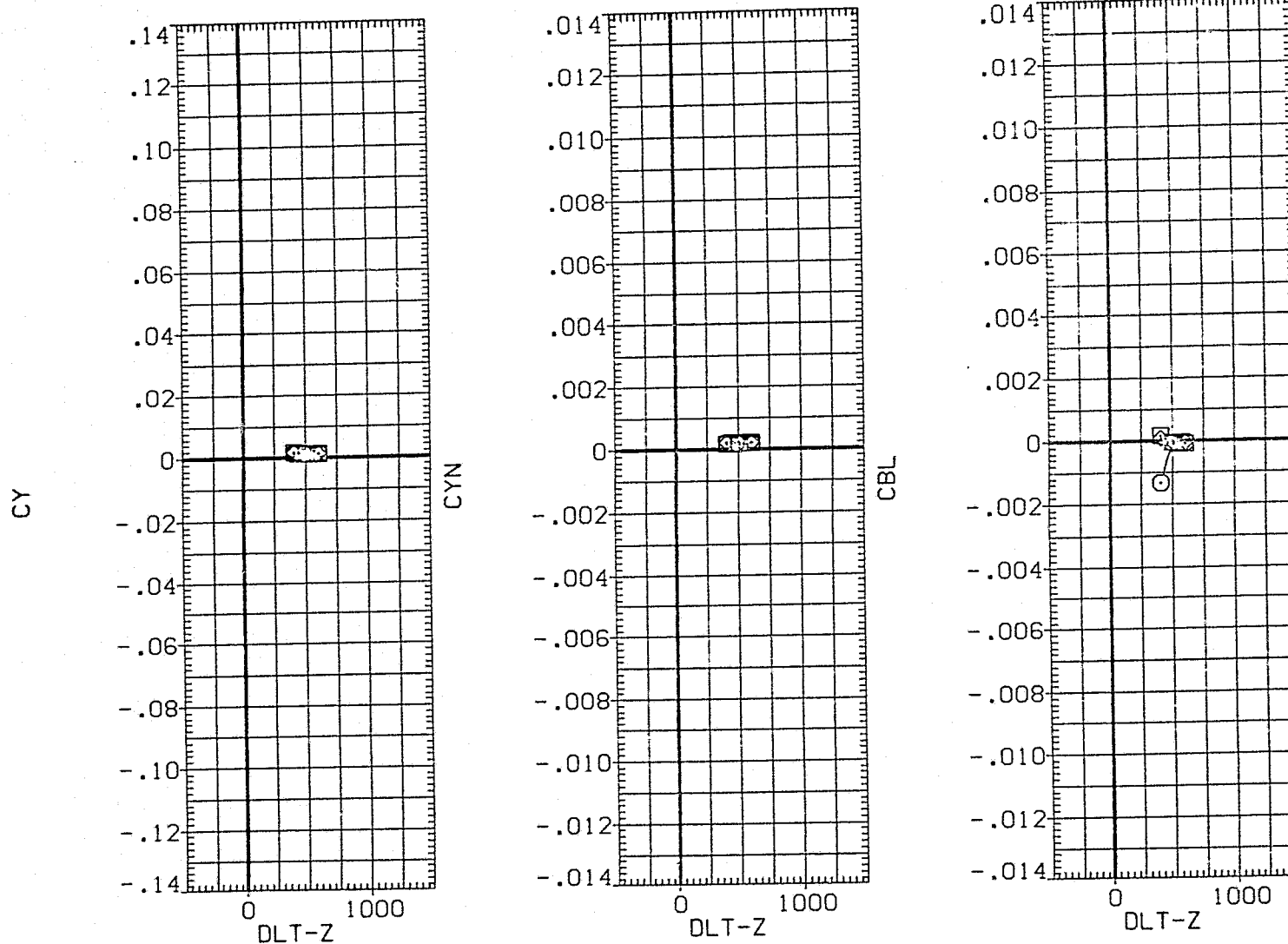


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR379)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.485	60.000	BETA	-5.000
□	200.440	.000	DLTALF	-20.000
◇	400.440	3.000	MACH	7.980
		.000	ELEVON	.000
		19.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

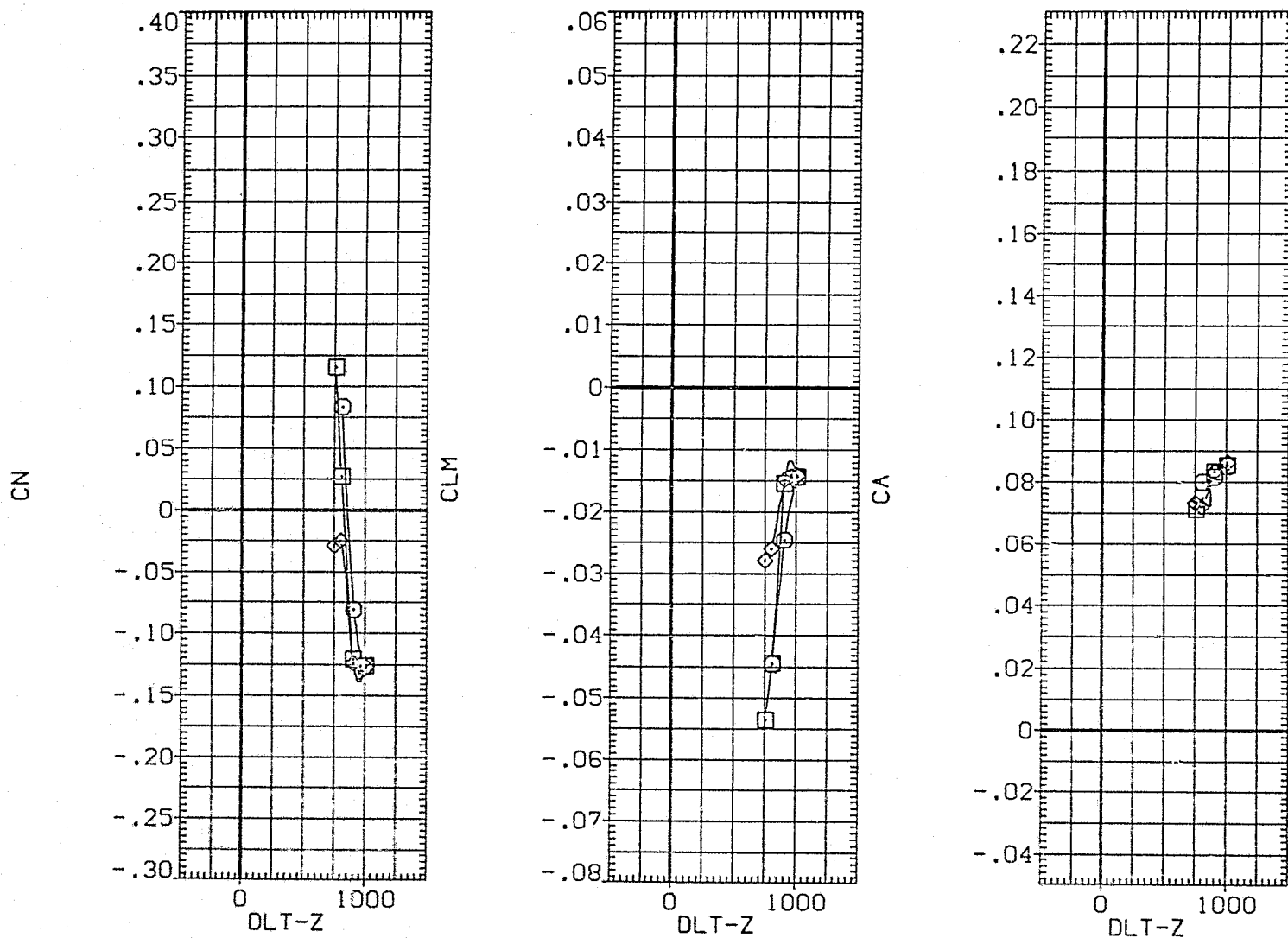


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AECC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR379)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.485	DLT-Y	60.000	ALPHA -5.000
□	200.440	BETA	.000	DLTALF -20.000
◇	400.440	DLTBTA	3.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	19.000	P0 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

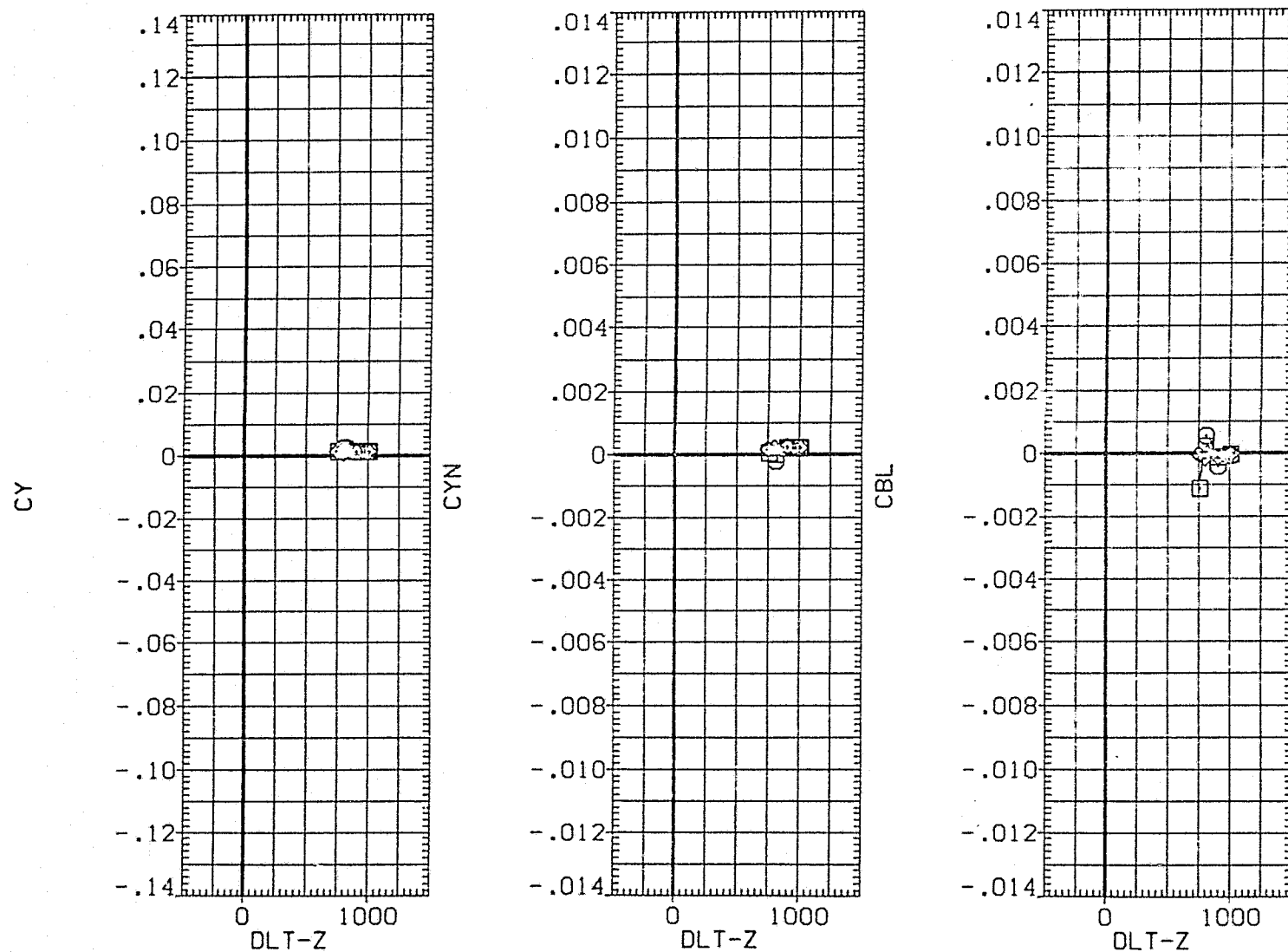


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.38,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR361)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.526	60.000	DLTALF	-5.000
□	200.450	3.000	MACH	.000
		.000	ELEVON	7.980
		.000	PQ	.000
		18.000		420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

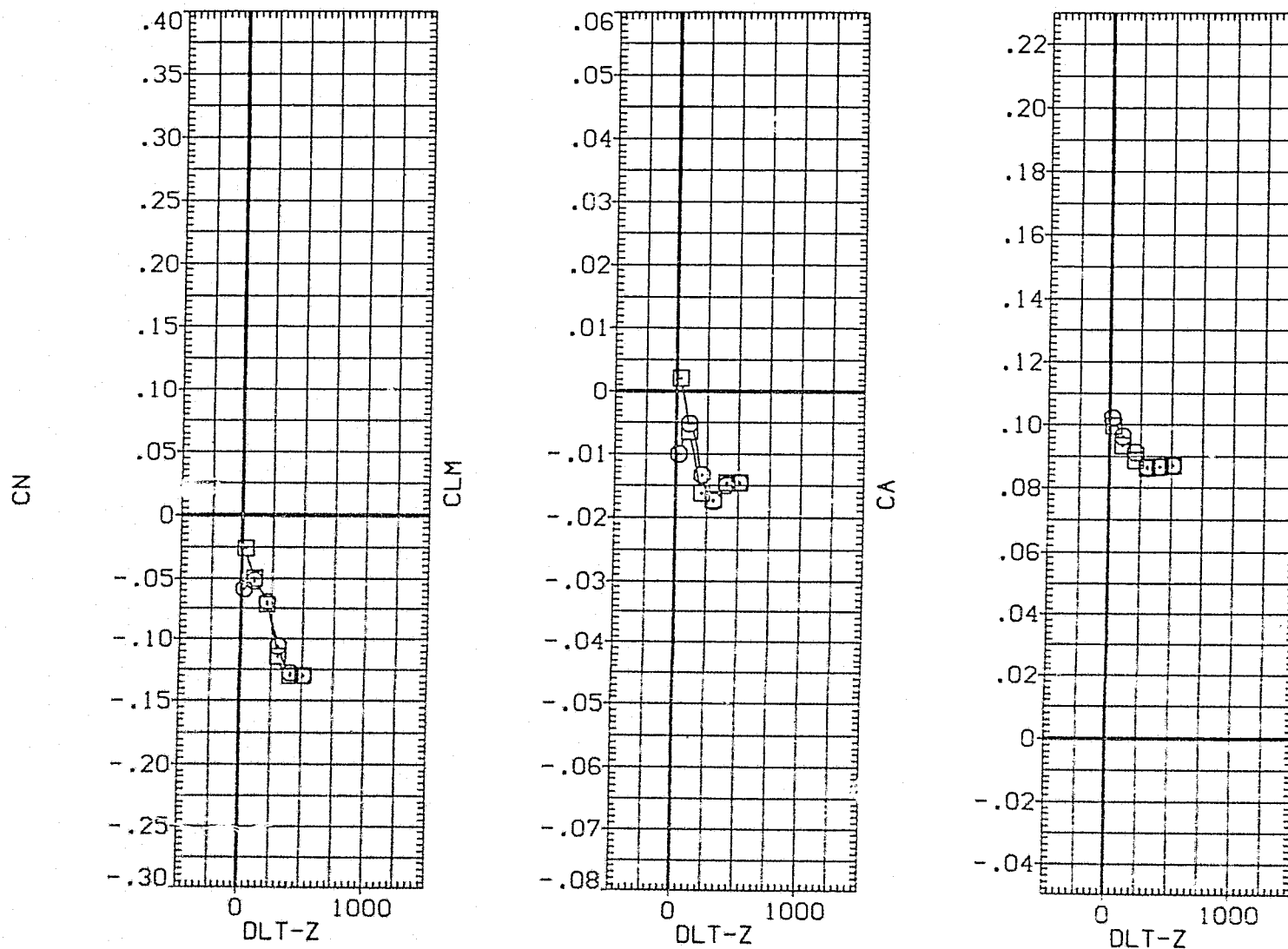


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR361)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.526	60.000	DLTALF	-5.000	
□	200.450	3.000	MACH	.000	
		.000	ELEVON	7.980	
		.000	P0	.000	
		18.000		420.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1299.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

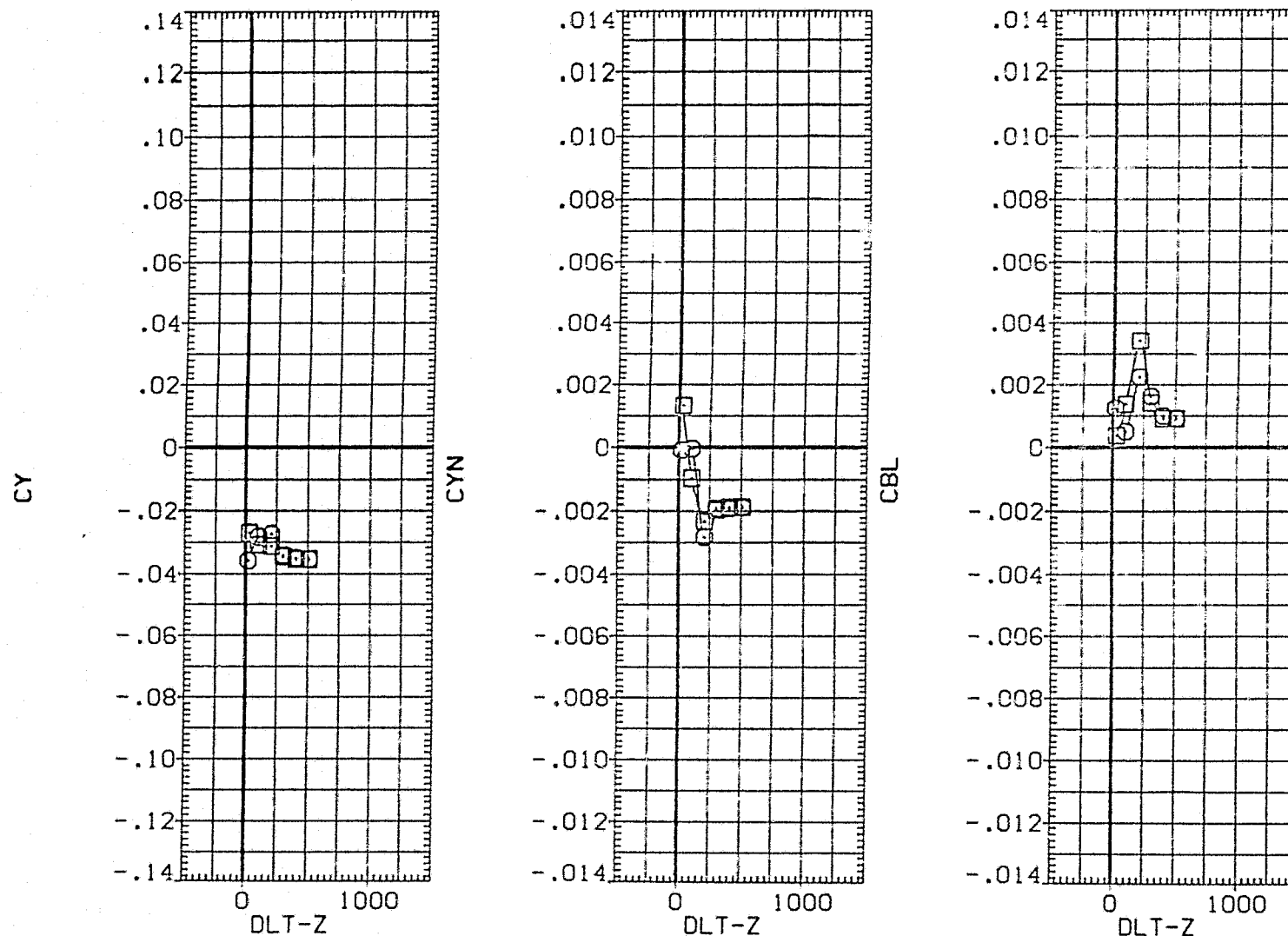


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR362)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.435	60.000	ALPHA -5.000
□	200.470	BETA 3.000	DLTALF -10.000
◇	400.510	DLTBTA .000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 18.000	PO 420.000

REFERENCE INFORMATION	
SREF	2690.0000 SO.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. XO
YMRP	.0000 IN. YO
ZMRP	375.0000 IN. ZO
SCALE	.0100

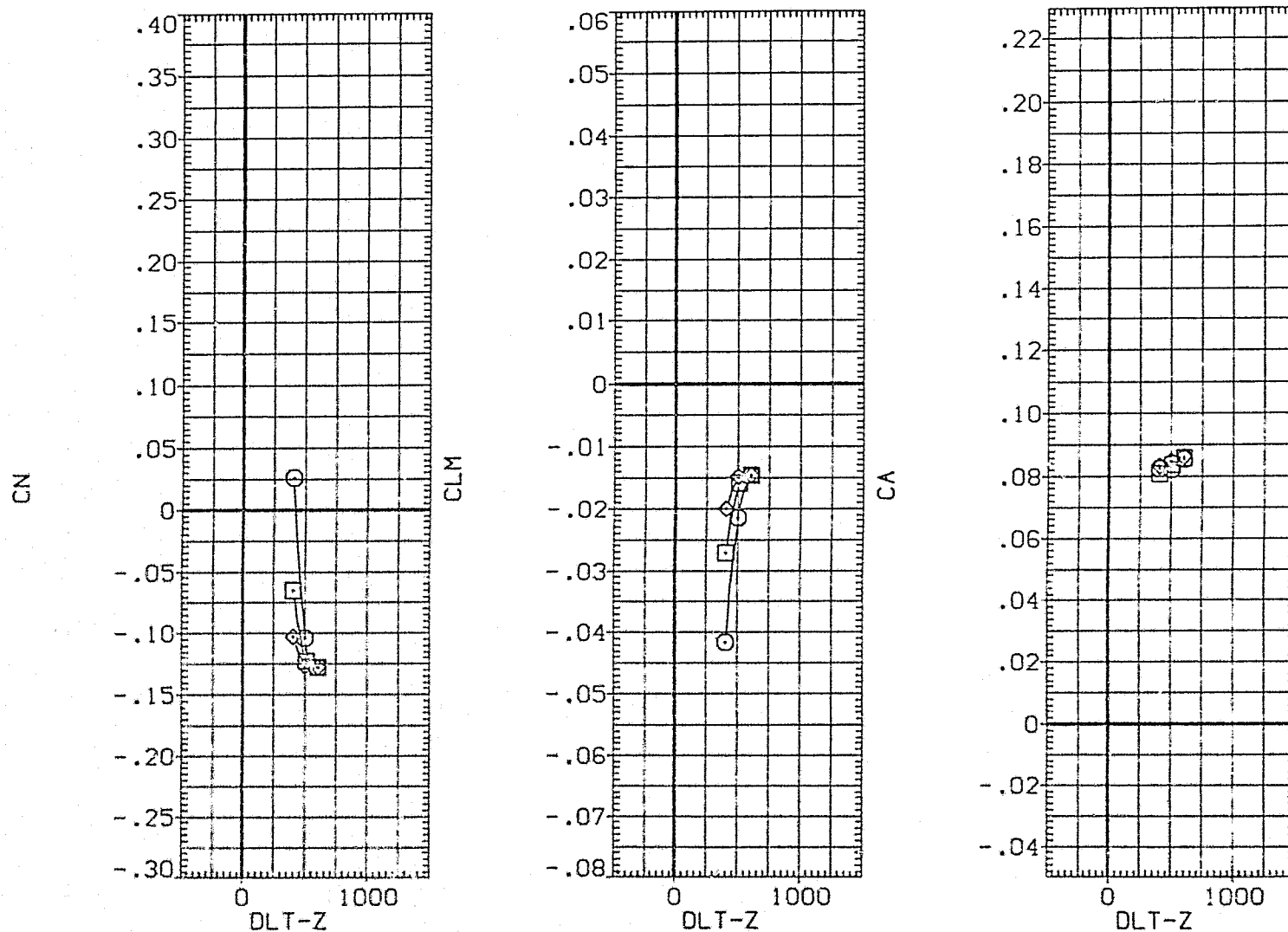


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AE0C VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR362)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.435	60.000	ALPHA	-5.000	
□	200.470	BETA	3.000	DLTALF	-10.000
◇	400.510	DLTBTA	.000	MACH	7.980
		AIRLON	.000	ELEVON	.000
		GRID	18.000	PQ	420.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

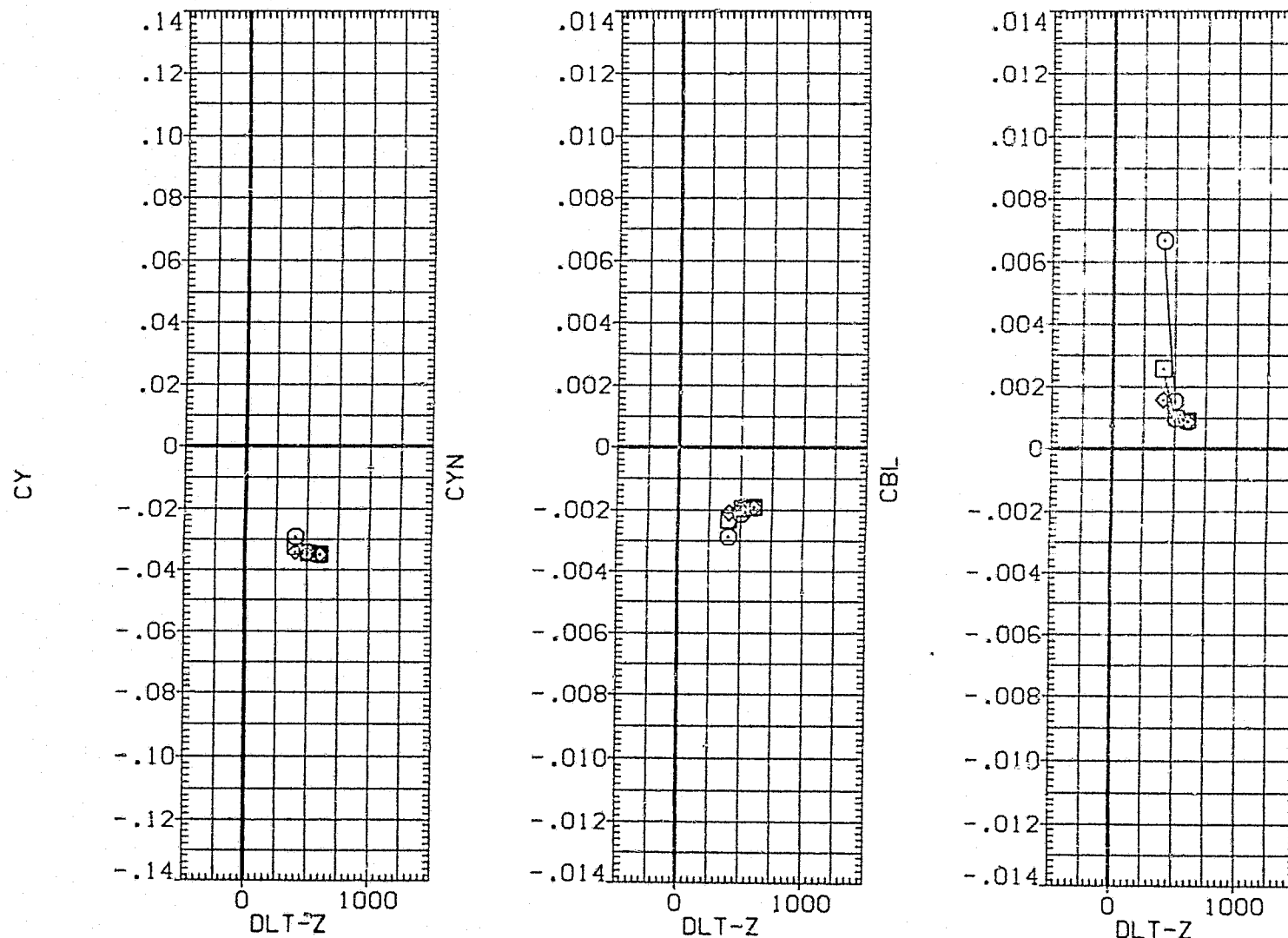


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR364)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.295	60.000	DLTALF	-5.000	
□	200.490	3.000	MACH	-20.000	
◇	400.470	.000	ELEVON	7.980	
		.000	P0	.000	
		18.000		370.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

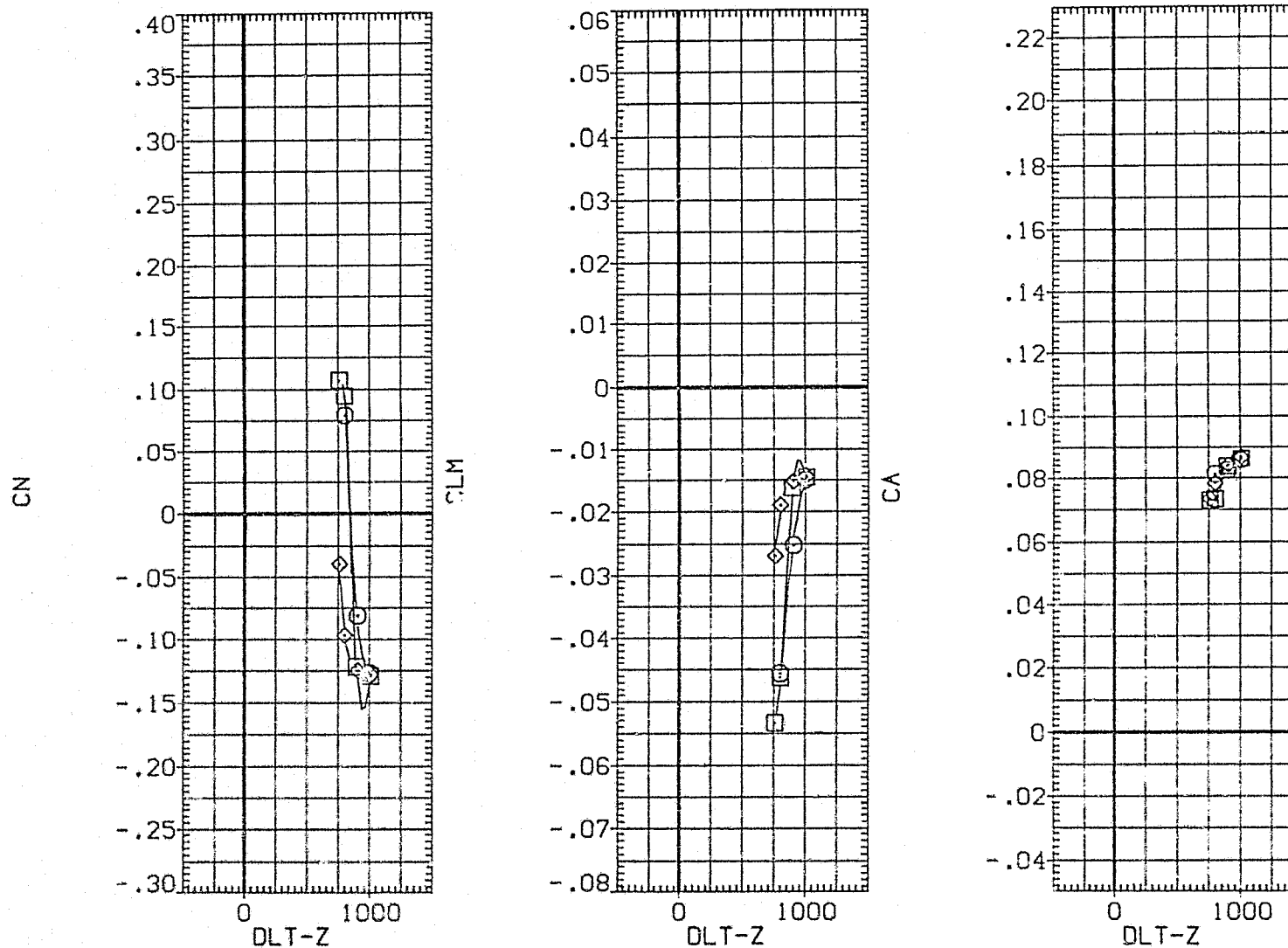


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR364)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.295		60.000	ALPHA -5.000
□	200.490	BETA	3.000	DLTALF -20.000
◇	400.470	DLTBTA	.000	MACH 7.980
		AILRON	.000	ELEVON .000
		GRID	18.000	P0 370.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

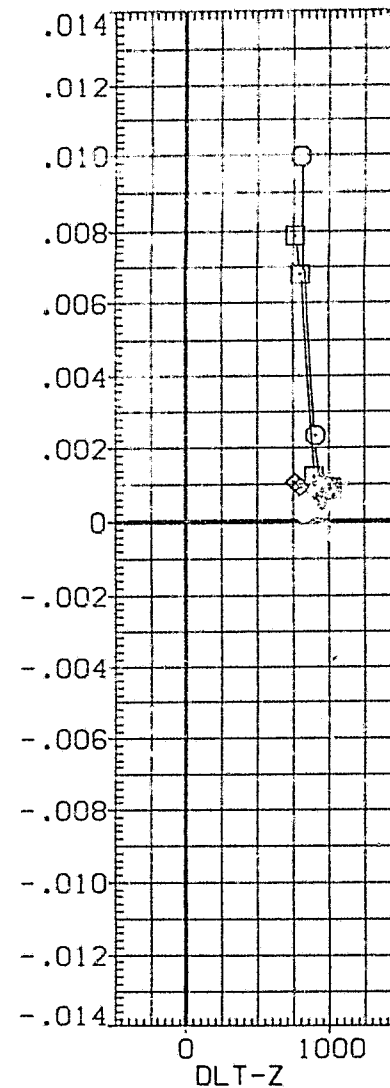
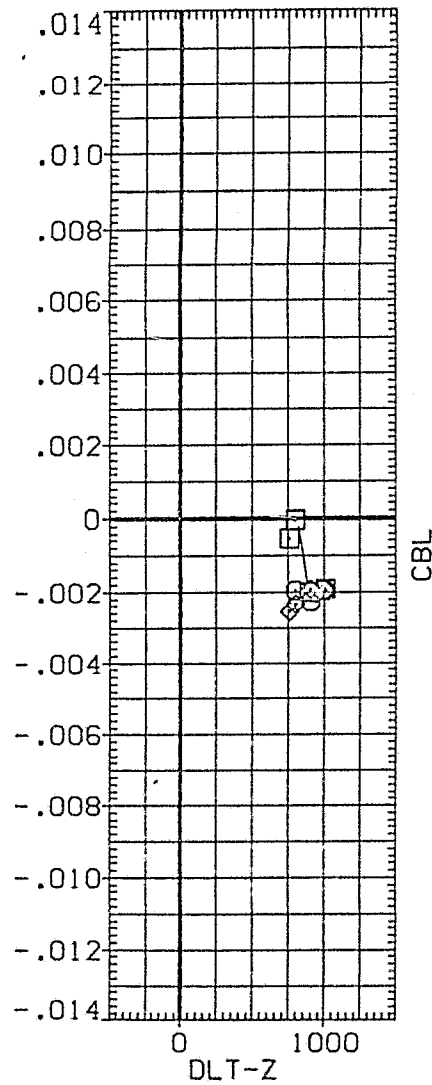
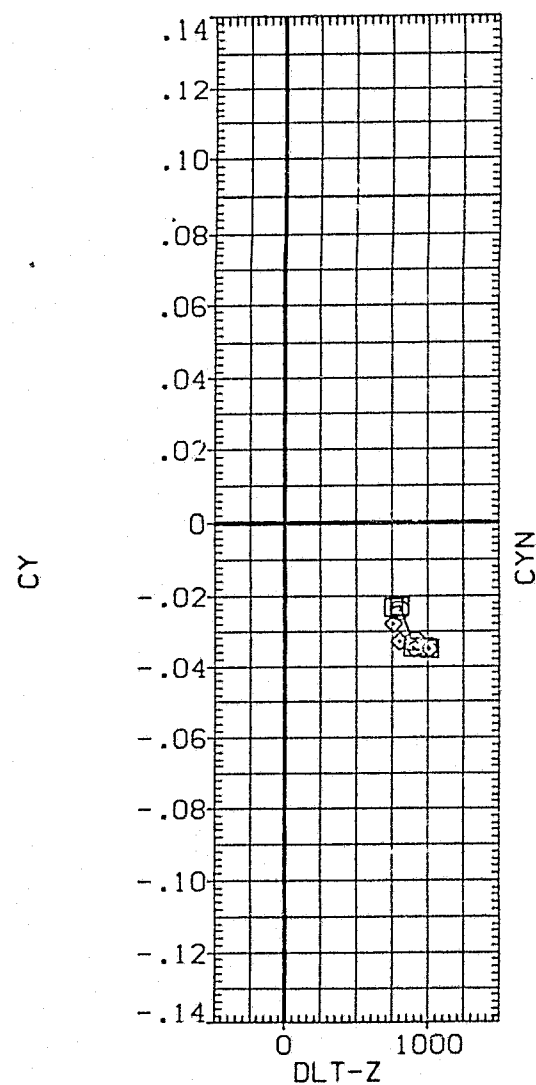


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR365)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.489	60.000	ALPHA	-5.000
□	200.520	3.000	DLTALF	.000
		3.000	MACH	7.980
		.000	ELEVON	.000
		18.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

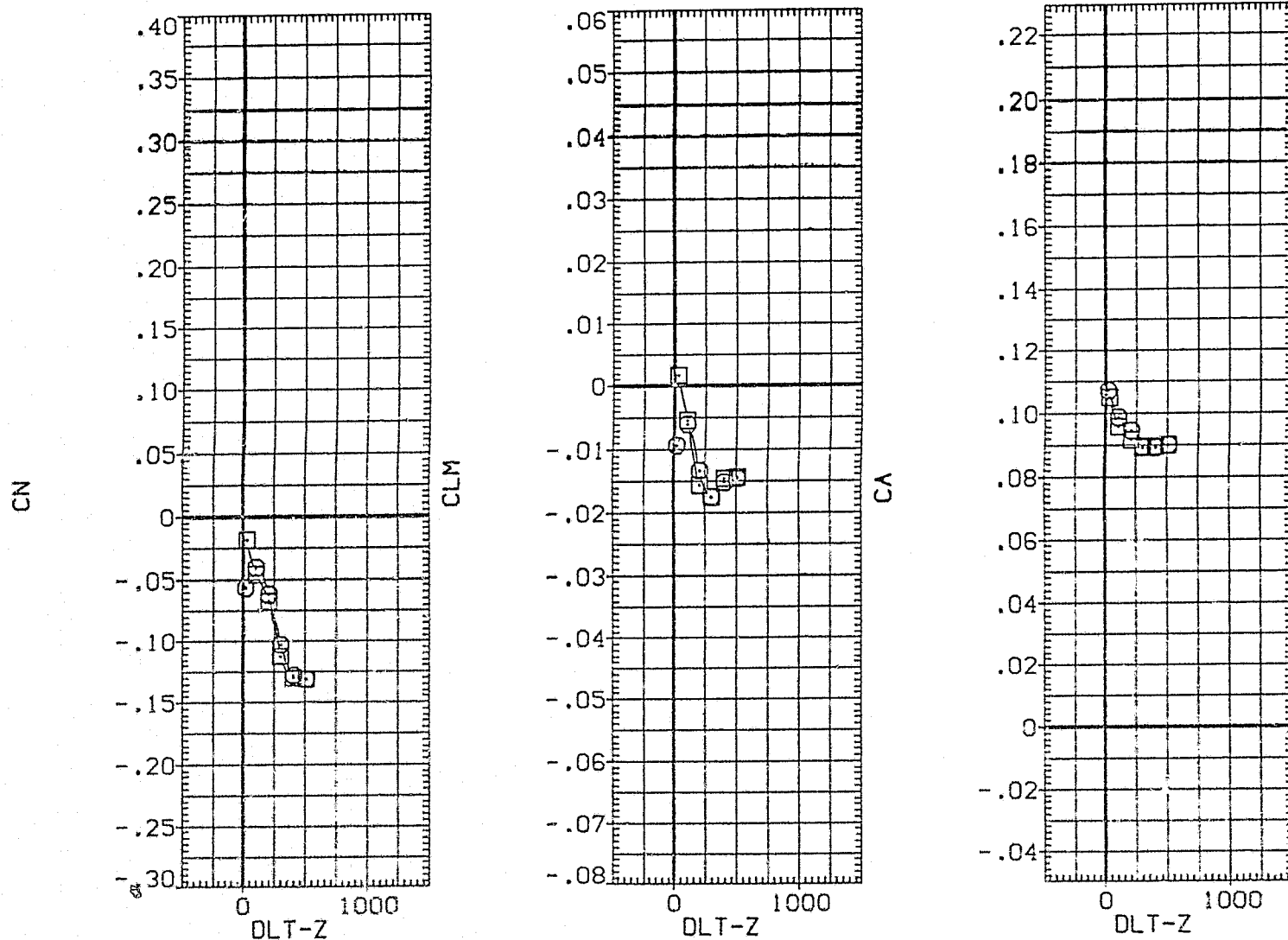


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEOC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR365)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.489	BETA	60.000	ALPHA
□	200.520	DLTSTA	3.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			18.000	PO
				300.000

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. Y3
ZMRP	.0000	IN. Y3
SCALE	375.0000	IN. Z3

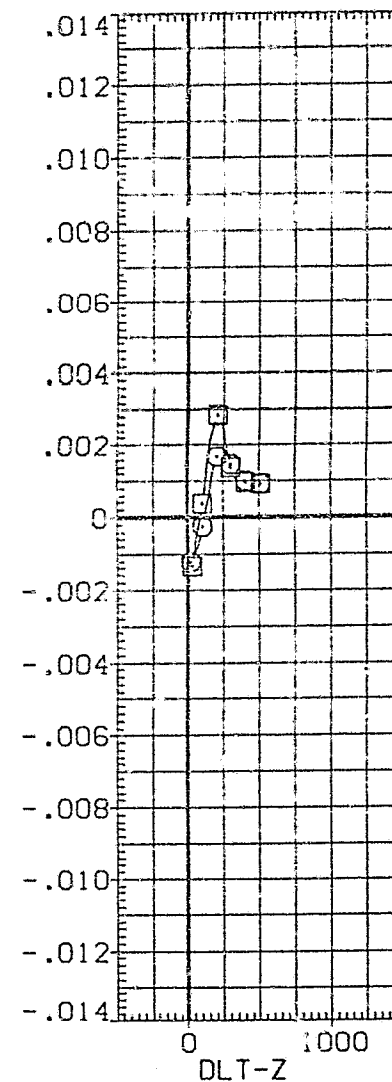
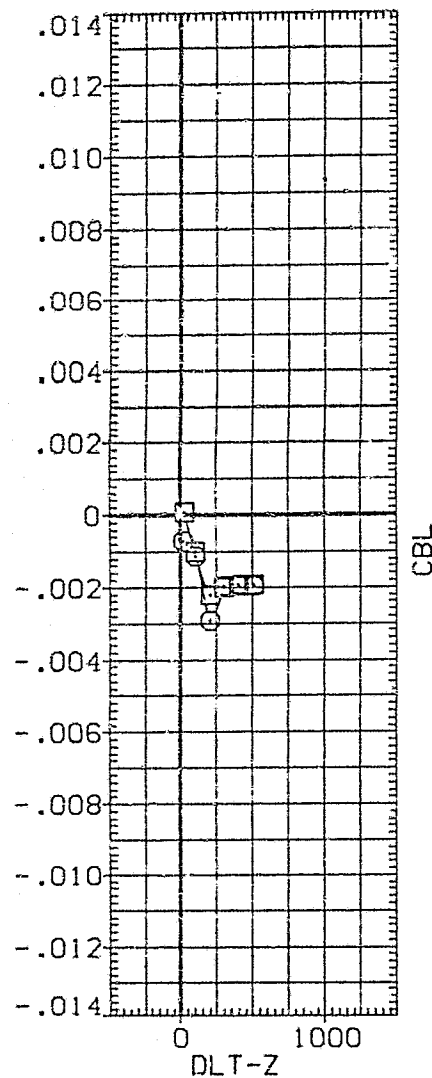
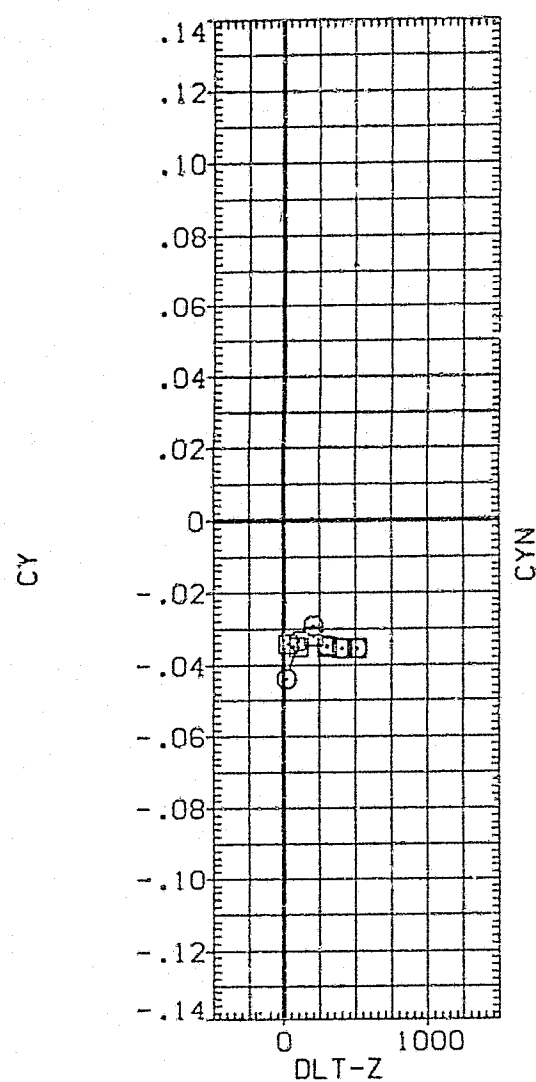


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR366)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.505	60.000	ALPHA	-5.000	
□	200.480	BETA	3.000	DLTALF	-10.000
◇	400.490	DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	18.000	PG	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

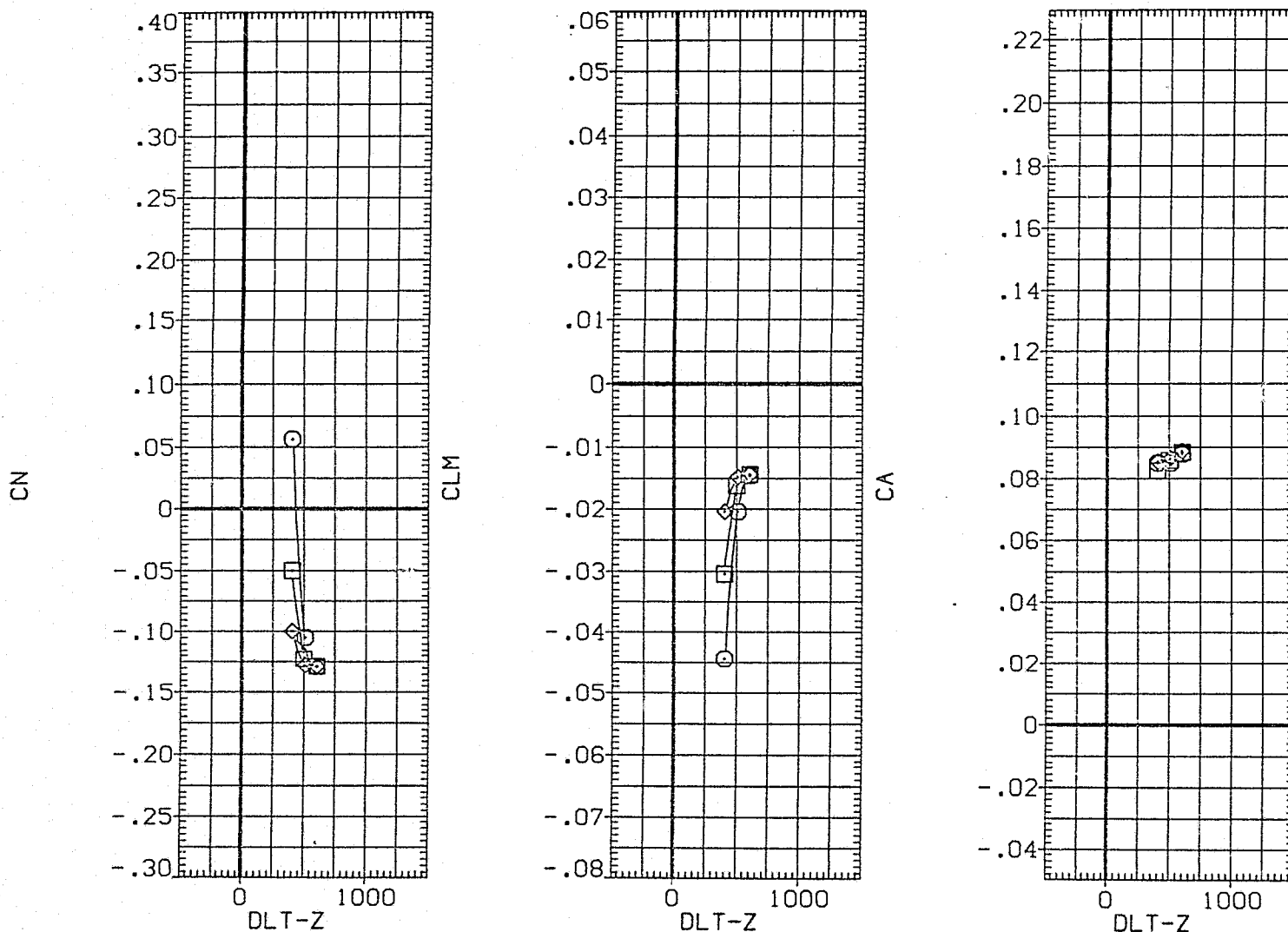


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR366)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.505	60.000	ALPHA -5.000
□	200.480	BETA 3.000	DLTALF -10.000
◇	400.490	DLTBT A 3.000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 18.000	P0 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

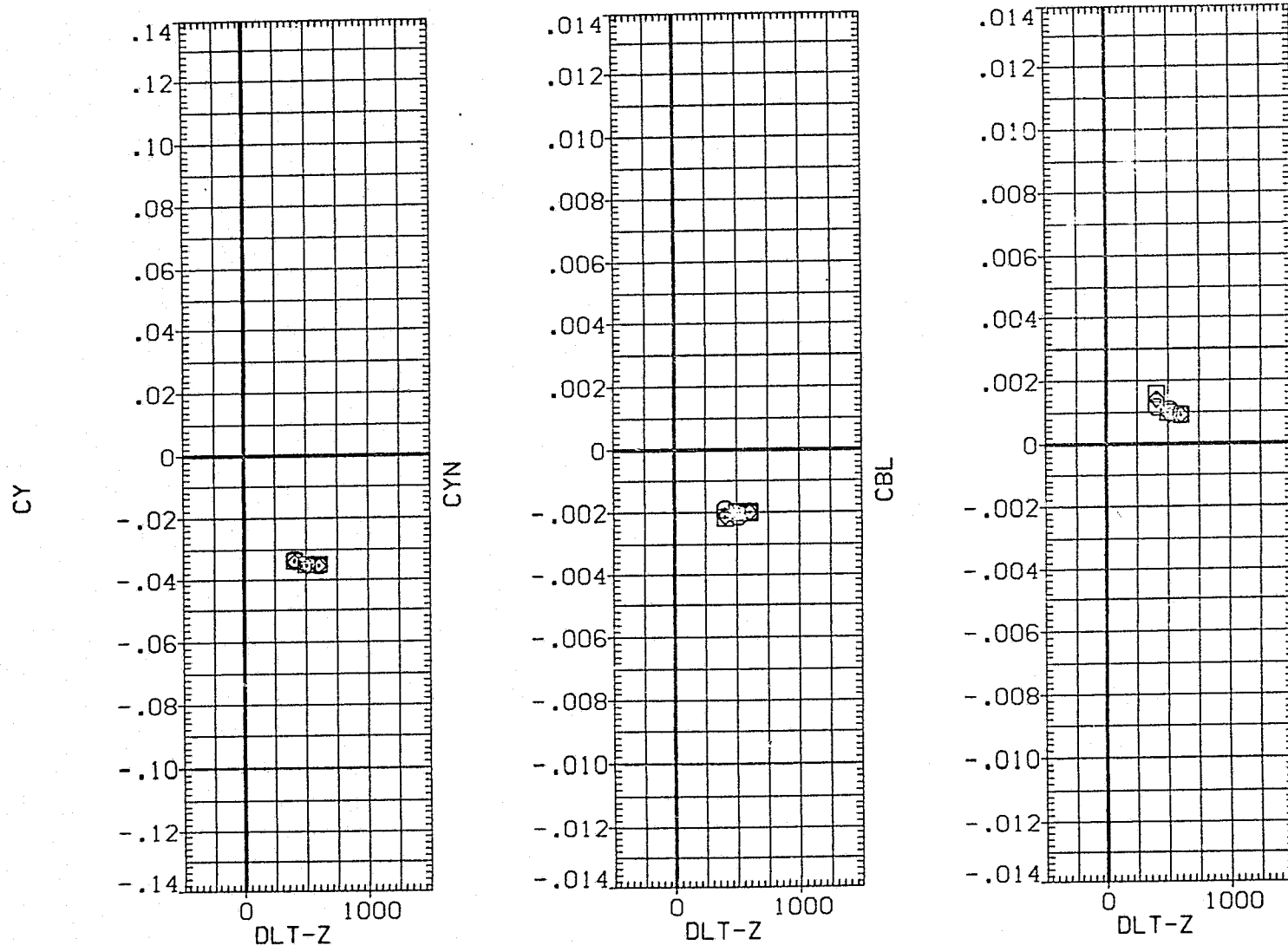


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR368)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	200.420	60.000	ALPHA -5.000
		BETA 3.000	DLTALF -20.000
		DLTBTA 3.000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 18.000	PO 350.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

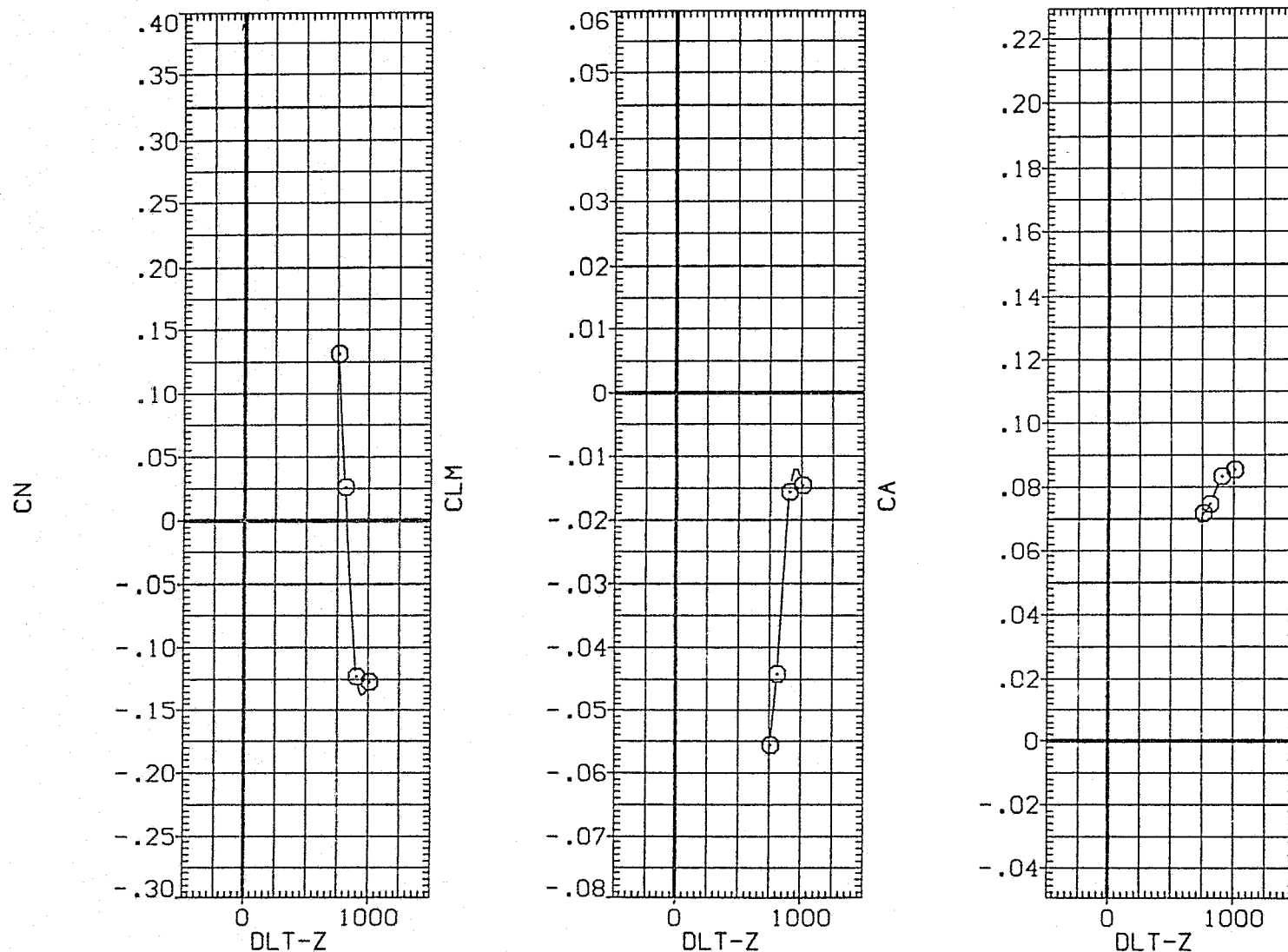


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR368)

SYMBOL	DLT-X	PARAMETRIC VALUES			
○	200.420	DLT-Y	60.000	ALPHA	-5.000
		BETA	3.000	DLTALF	-20.000
		DLTBTA	3.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	18.000	P0	350.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

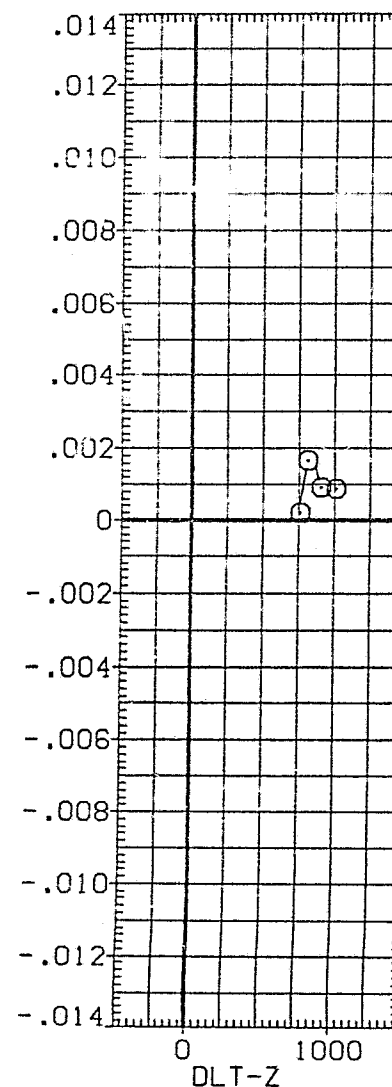
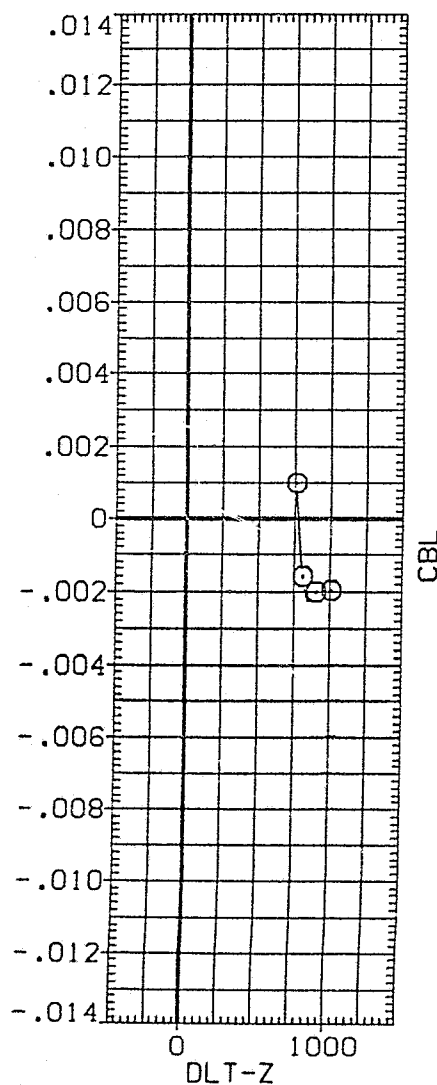
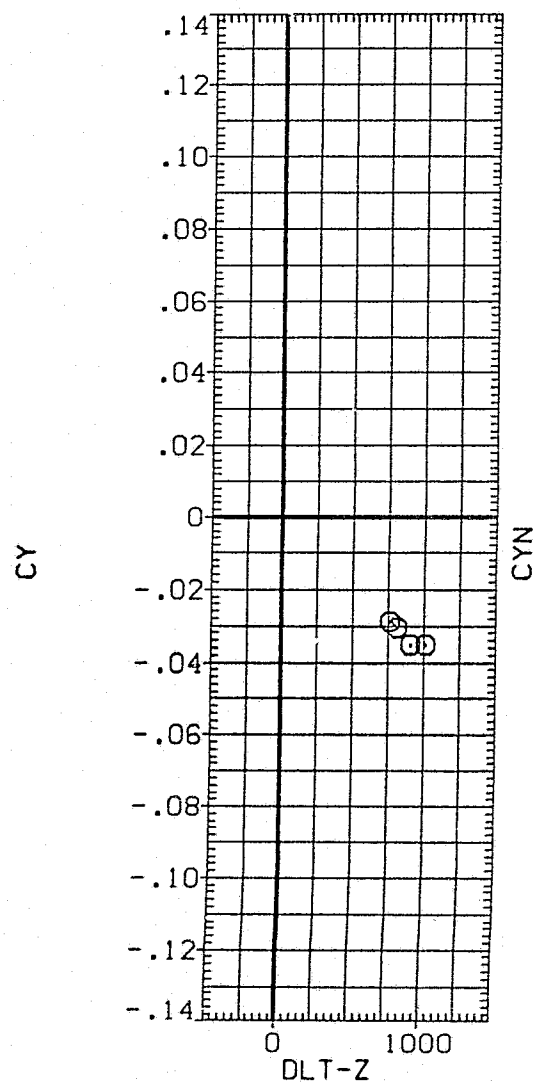


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR369)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.453	60.000	DLTALF	-5.000	
□	400.410	3.000	MACH	7.980	
		3.000	ELEVON	.000	
		.000	PG	300.000	
		18.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

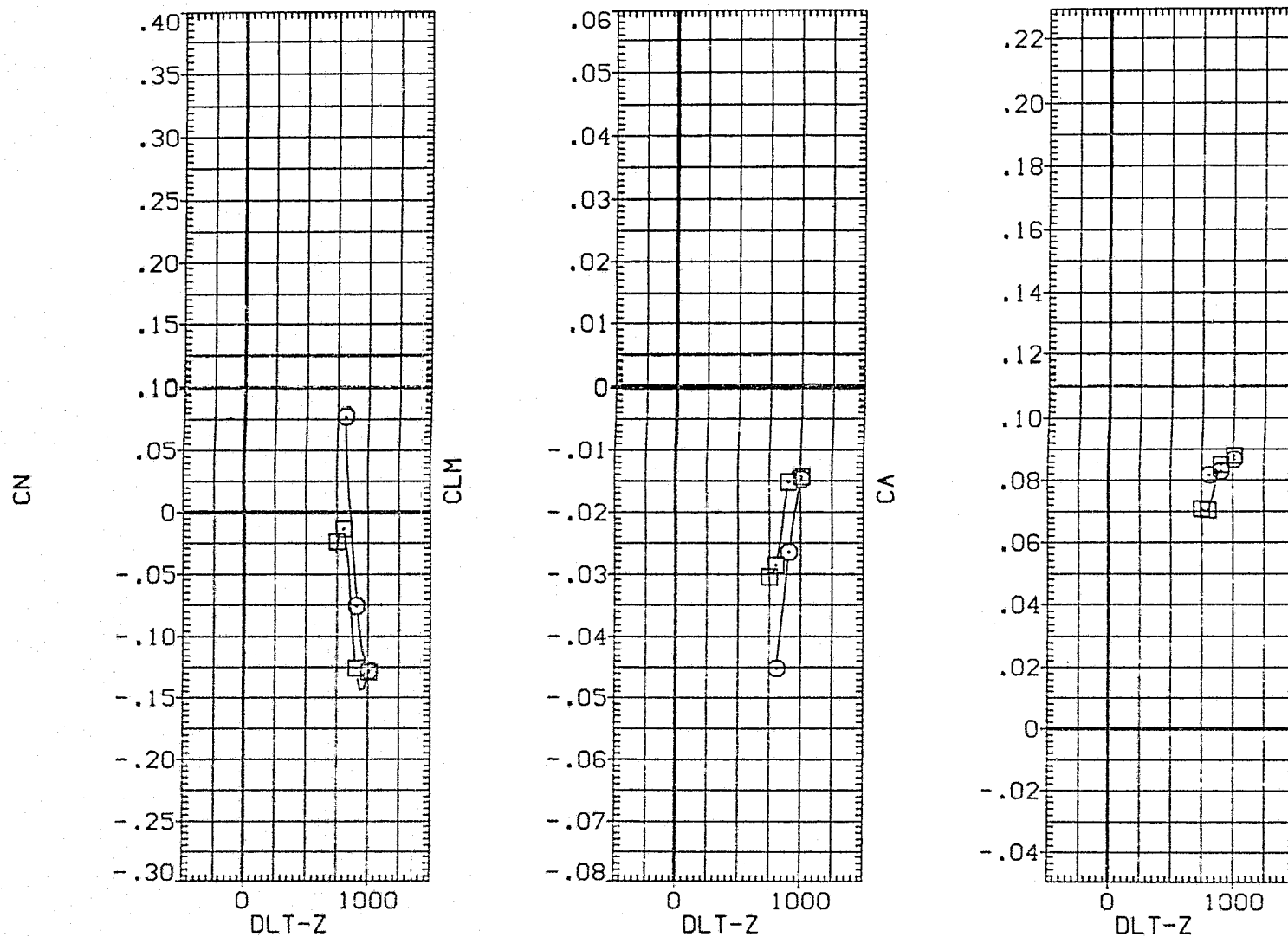


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR369)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.453	60.000	ALPHA -5.000
□	400.410	BETA 3.000	DLTALF -20.000
		DLTBTA 3.000	MACH 7.980
		AILRON .000	ELEVON .000
		GRID 18.000	P0 300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

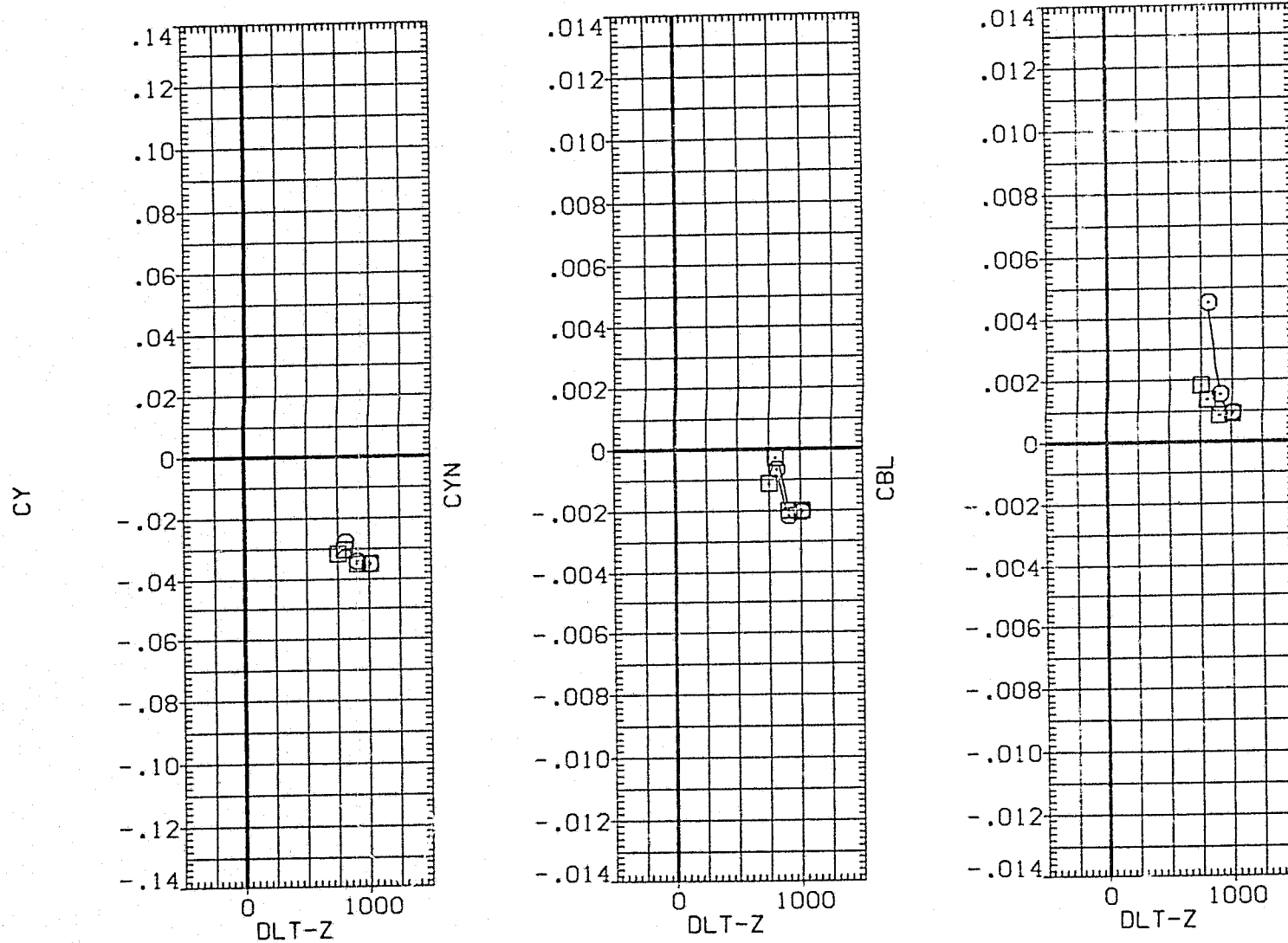


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR370)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.472	BETA	60.000	-10.000	
□	200.420	DLTBTA	3.000	.000	
		AIRLON	.000	7.980	
		GRID	8.000	ELEVON	.000
			P0	300.000	

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

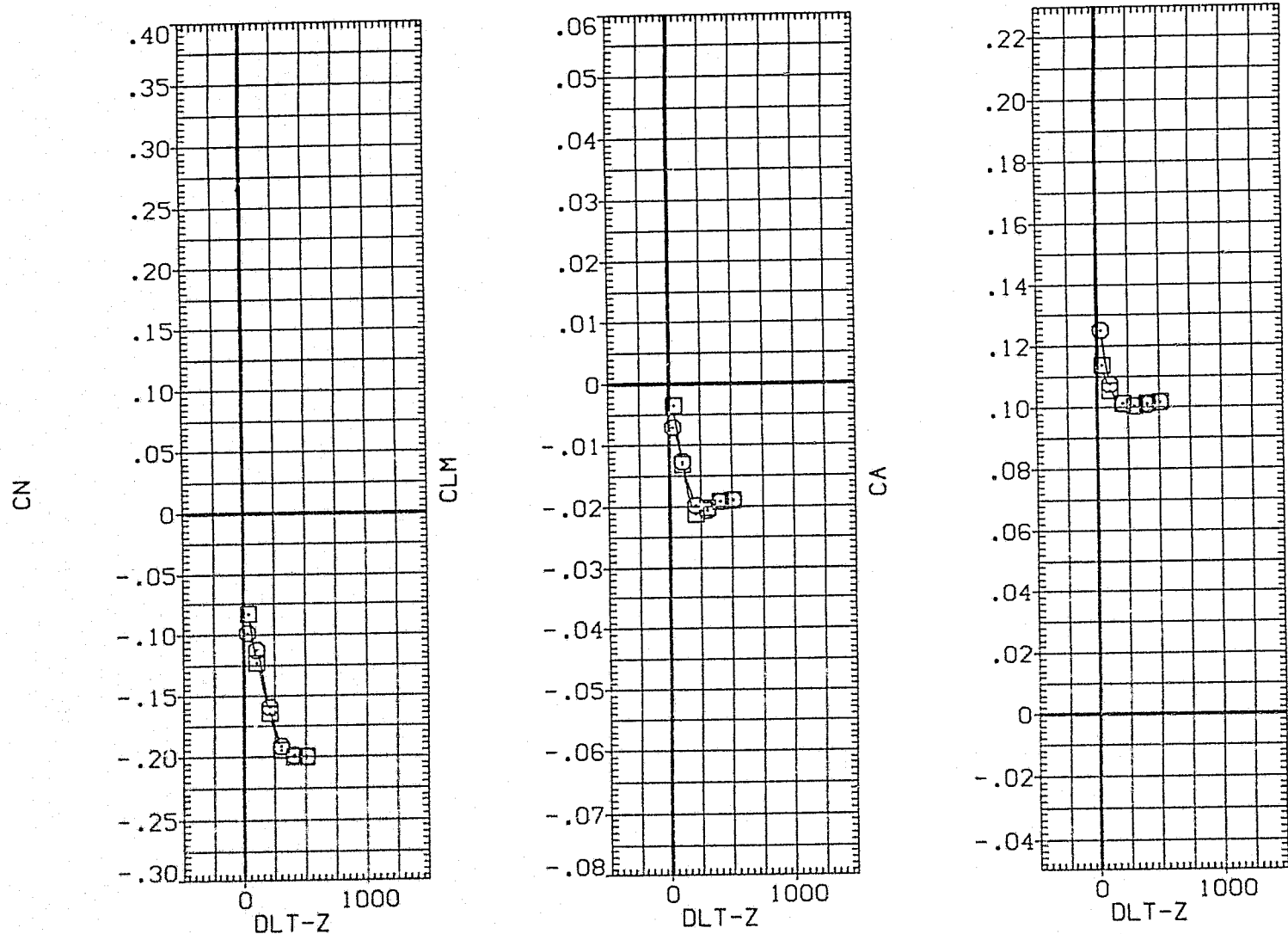


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR370)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.472	60.000	ALPHA	-10.000	
□	200.420	BETA	3.000	DLTALF	.000
		DLTETA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	8.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

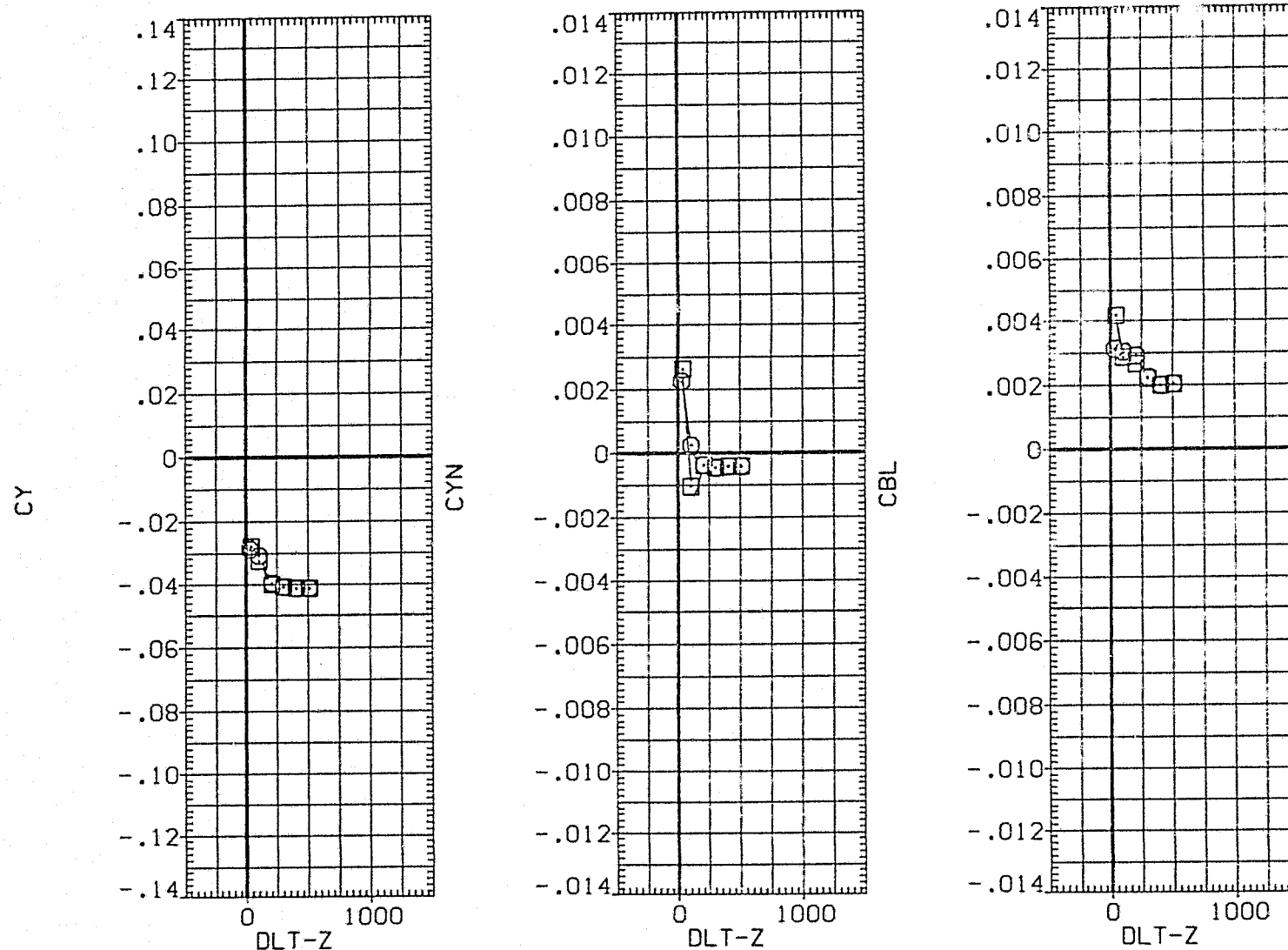


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR371)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.317	60.000	ALPHA -10.000
□	200.470	3.000	DLTALF -10.000
◇	400.370	.000	MACH 7.980
		.000	ELEVON .000
		8.000	P0 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

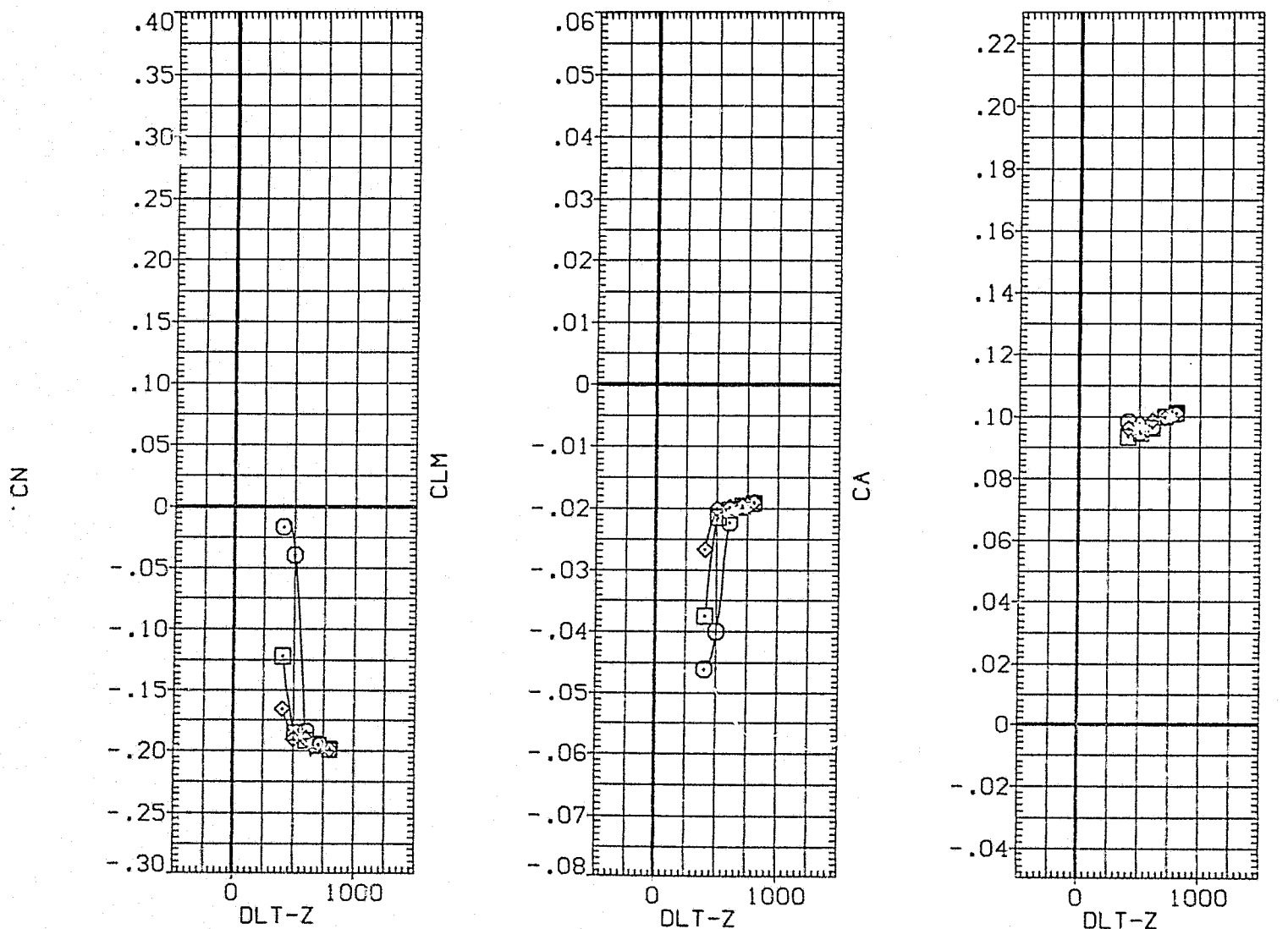


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR371)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.317	60.000	ALPHA -10.000
□	200.470	3.000	DLTALF -10.000
◇	400.370	.000	MACH 7.980
		.000	ELEVON .000
		8.000	PG 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

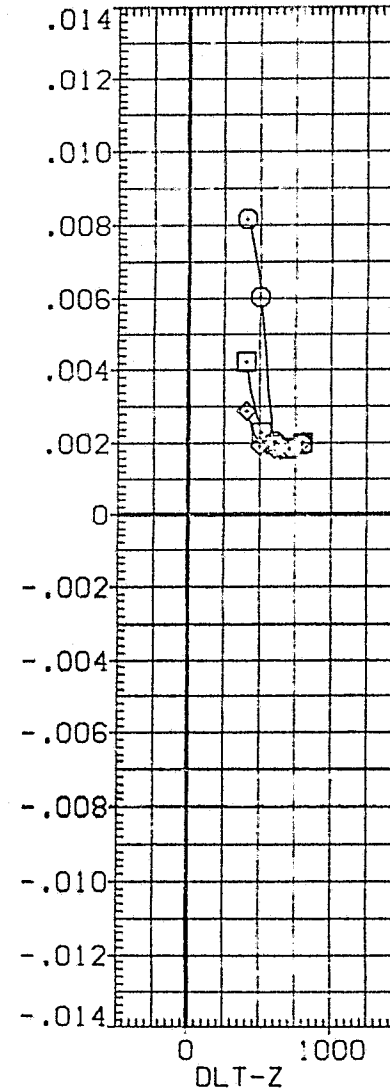
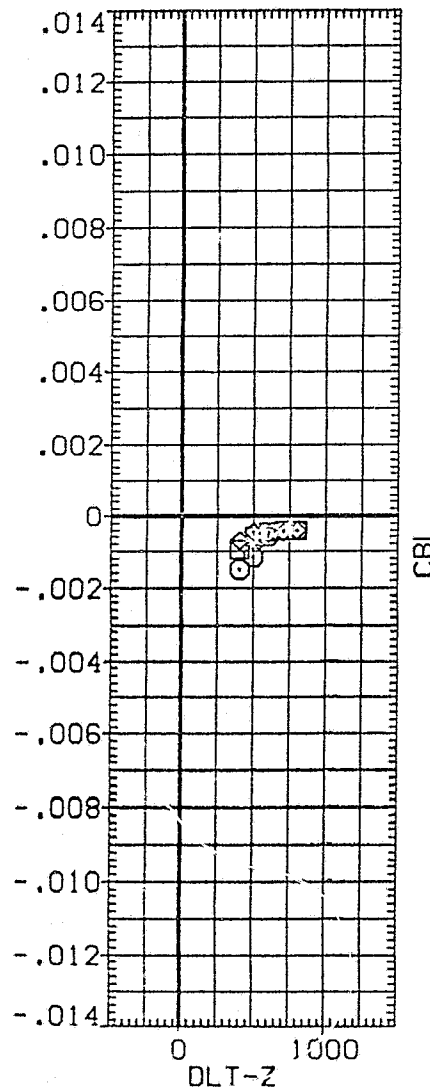
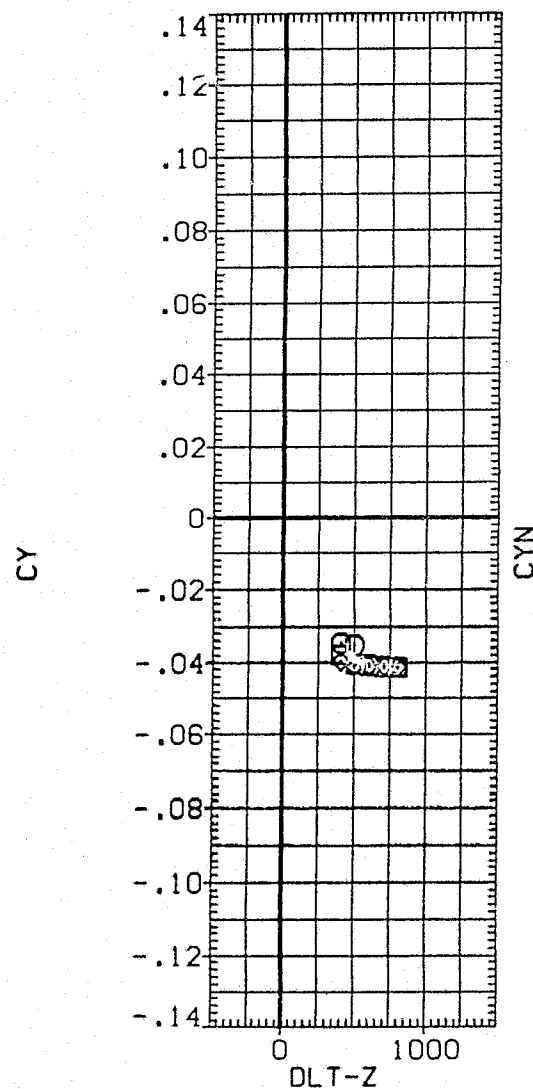


FIGURE 18 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98,ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR343)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.618	60.000	ALPHA	.000
□	200.430	.000	DLTALF	.000
		.000	MACH	7.980
		.000	ELEVON	.000
		16.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

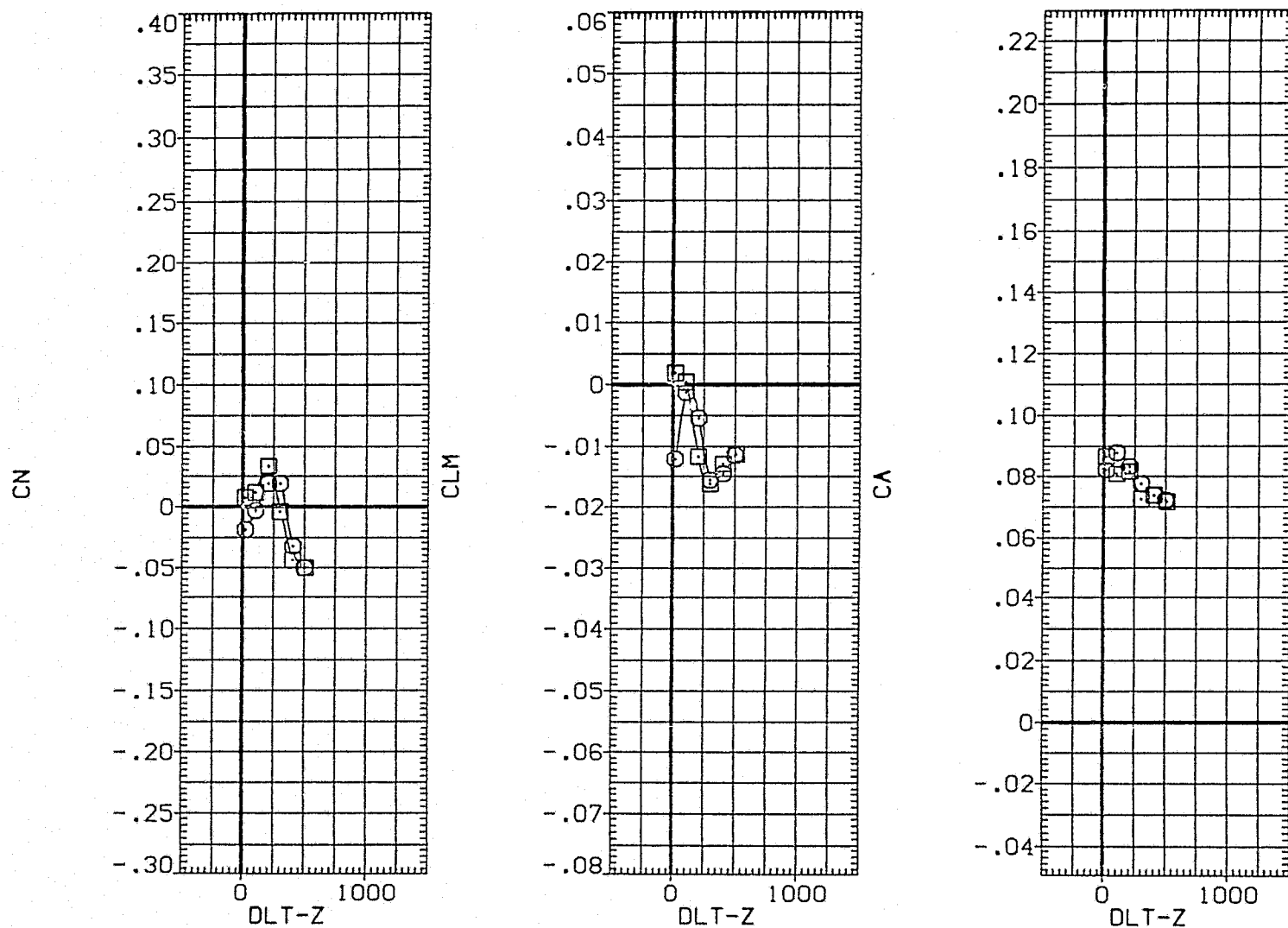


FIGURE 19 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELV=0, LOWER P0)

AE DC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR343)

SYMBOL	DLT-X	PARAMETRIC VALUES			
		DLT-Y	60.000	ALPHA	.000
○	.618	BETA	.000	DLTALF	.000
□	200.430	DLTBTA	.000	MACH	7.980
		AILRON	.000	ELEVON	.000
		GRID	16.000	P0	300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

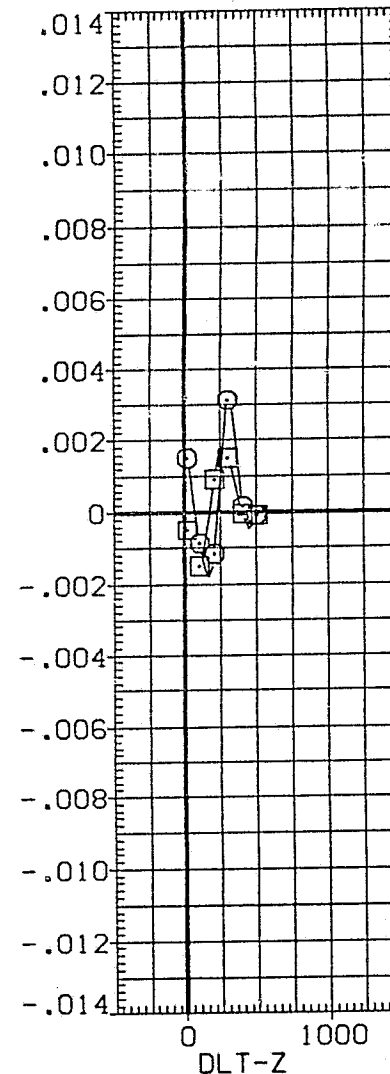
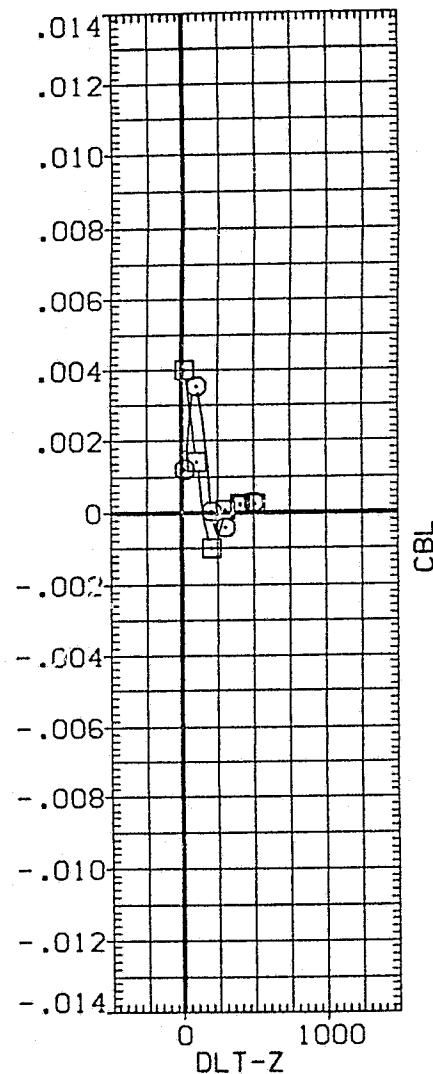
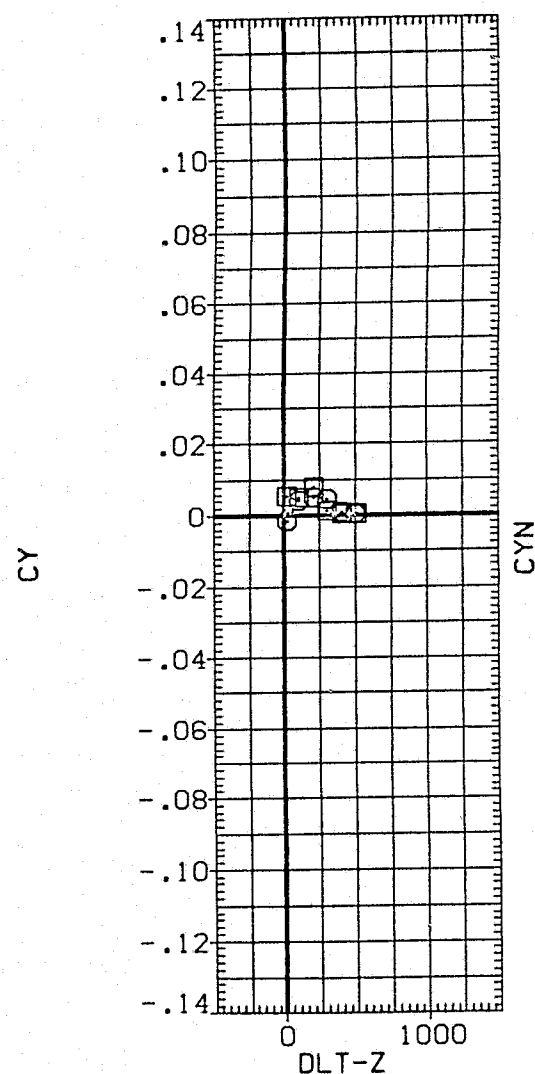


FIGURE 19 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELV=0, LOWER P0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR344)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.501	60.000		.000
□	200.390	BETA	.000	DLTALF -10.000
◇	400.520	DLTBTA	.000	MACH 7.980
		ATLRGN	.000	ELEVON .000
		GRID	16.000	P0 300.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

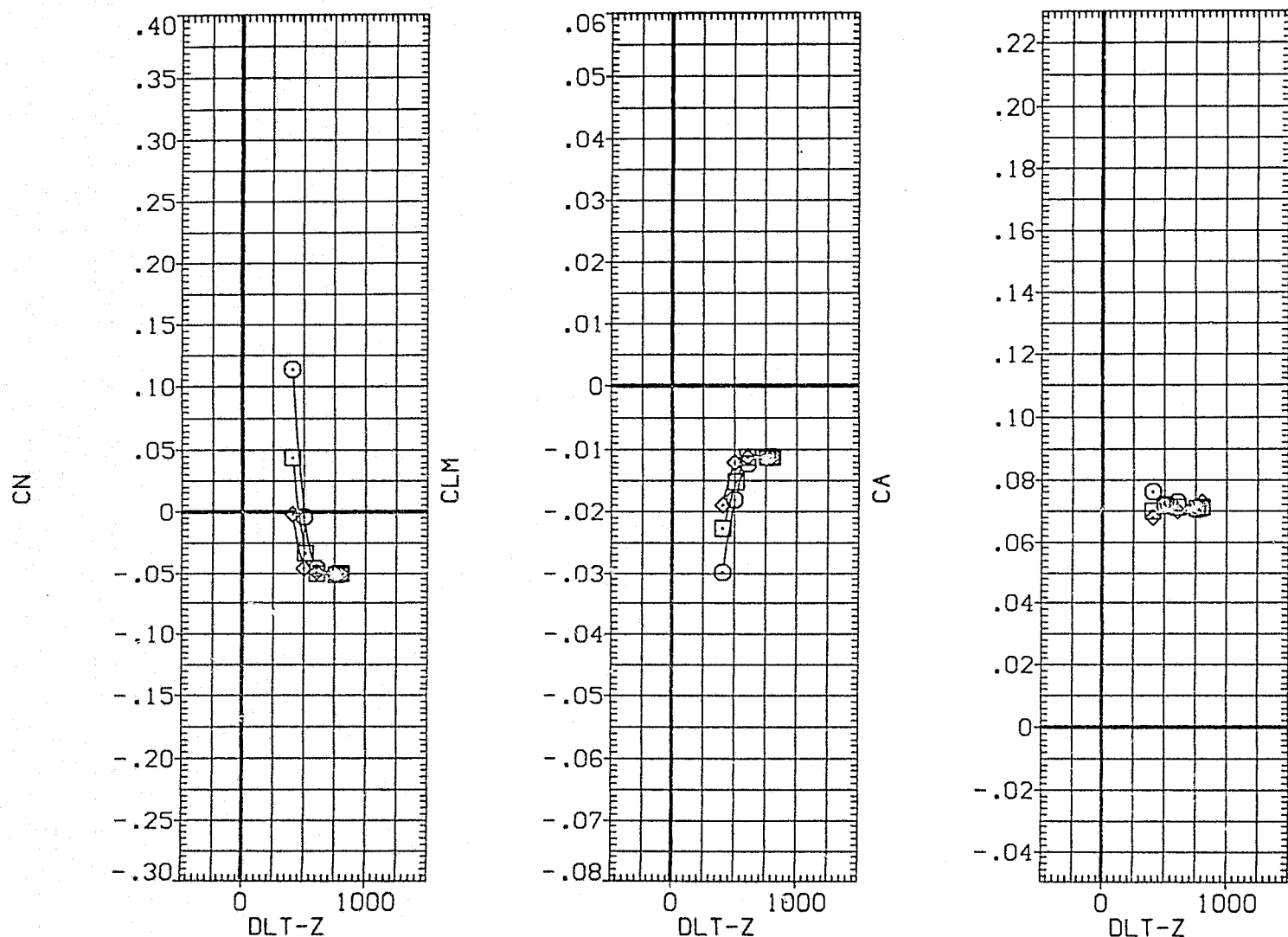


FIGURE 19 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELV=0, LOWER P0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR344)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.501	60.000	ALPHA .000
□	200.390	.000	DLTALF -10.000
◇	400.520	.000	MACH 7.980
		.000	ELEVON .000
		16.000	PG 300.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

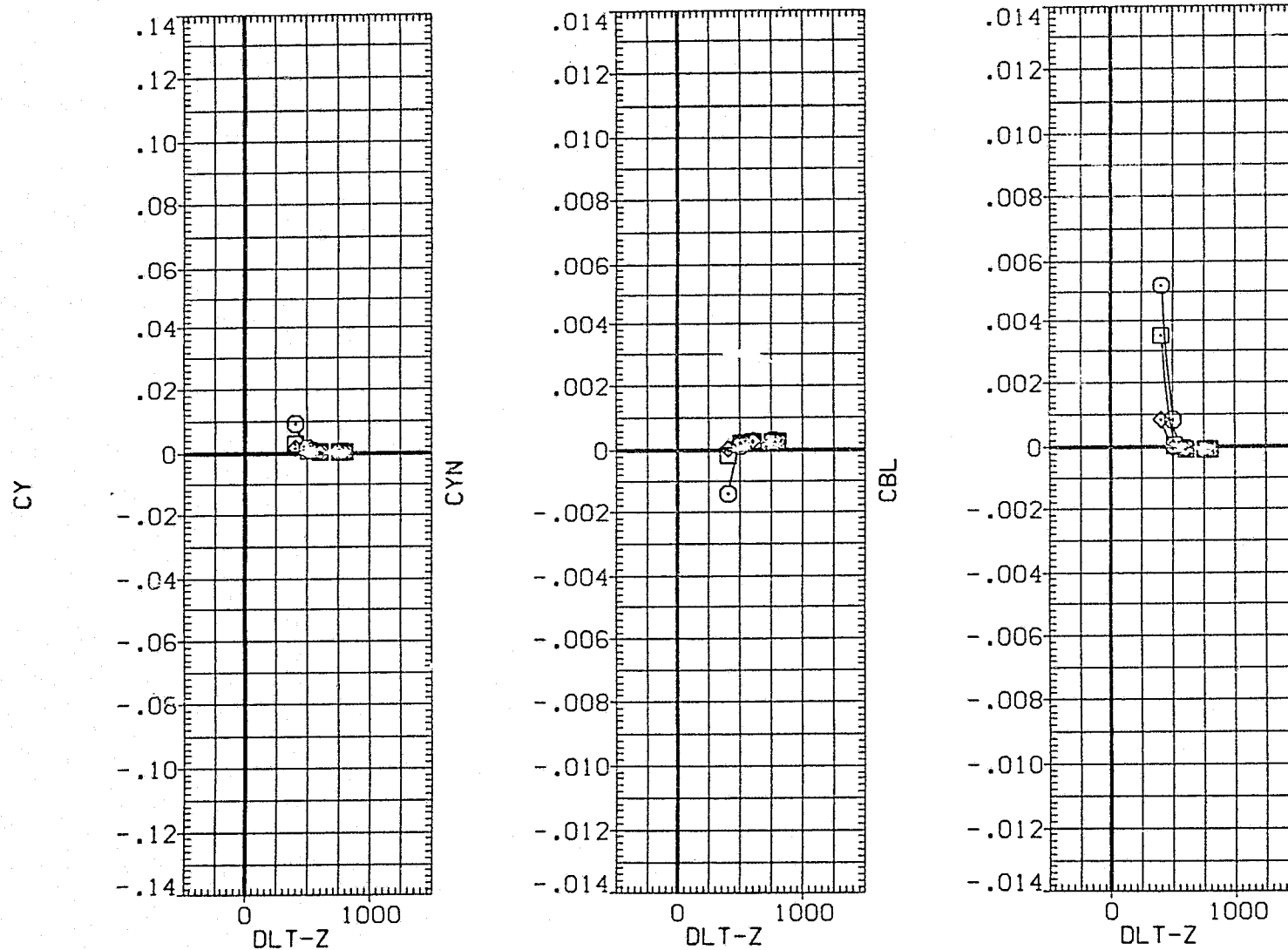


FIGURE 19 ORBITER AERO CHARACTERISTICS (DELTA-Y = 60, MACH= 7.98, ELV=0, LOWER P0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR401)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.636		200.000	ALPHA .000
□	200.530		.000	DLTALF .000
		BETA	3.000	MACH 5.930
		DLTBTA	.000	ELEVON .000
		AILRON	1.000	
		GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

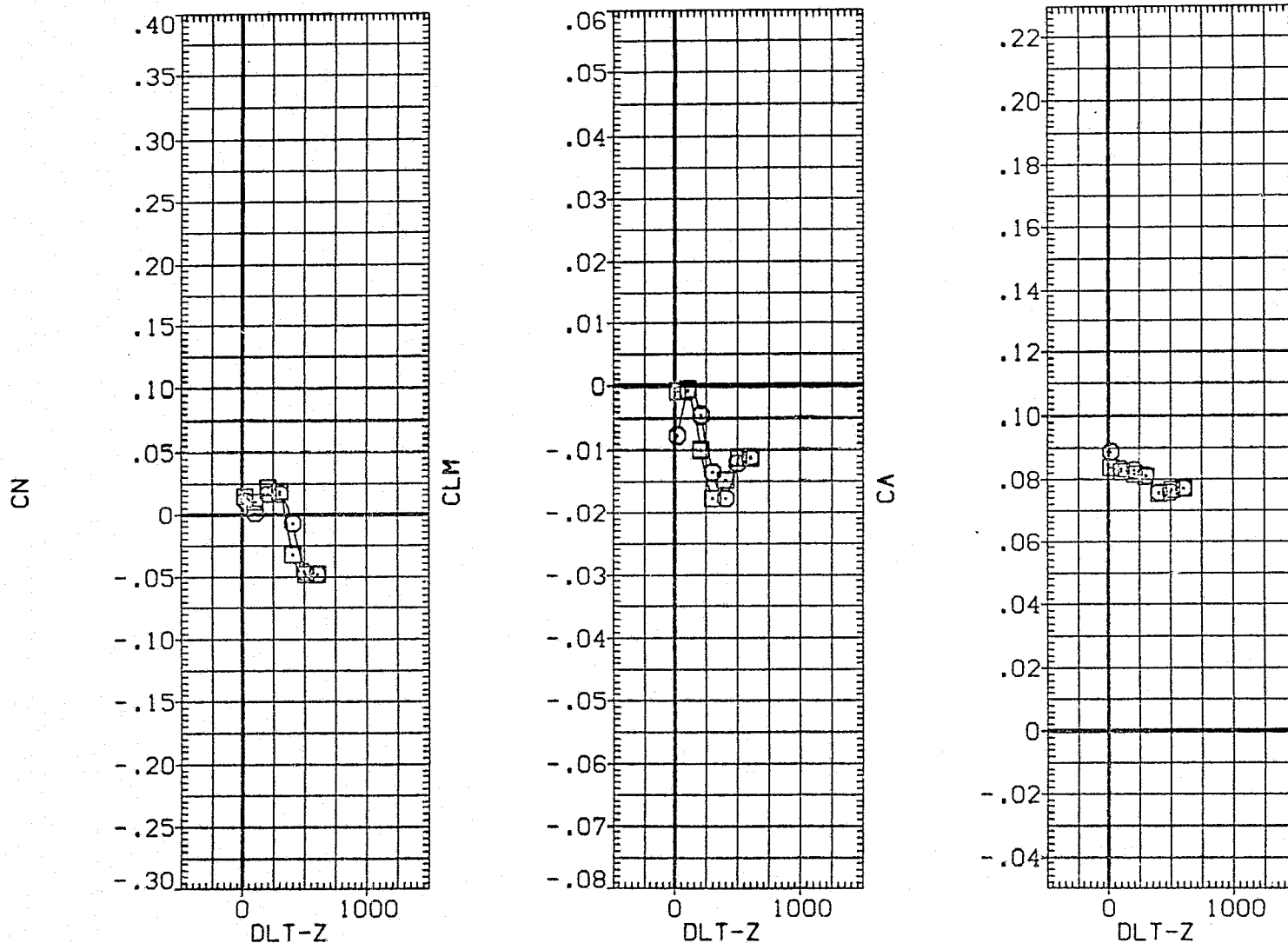


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR401)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.636	200.000	ALPHA		.000
□	200.530	BETA	.000	DLTALF	.000
		DLTBTA	3.000	MACH	5.930
		AIRLON	.000	ELEVON	.000
		GRID	1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

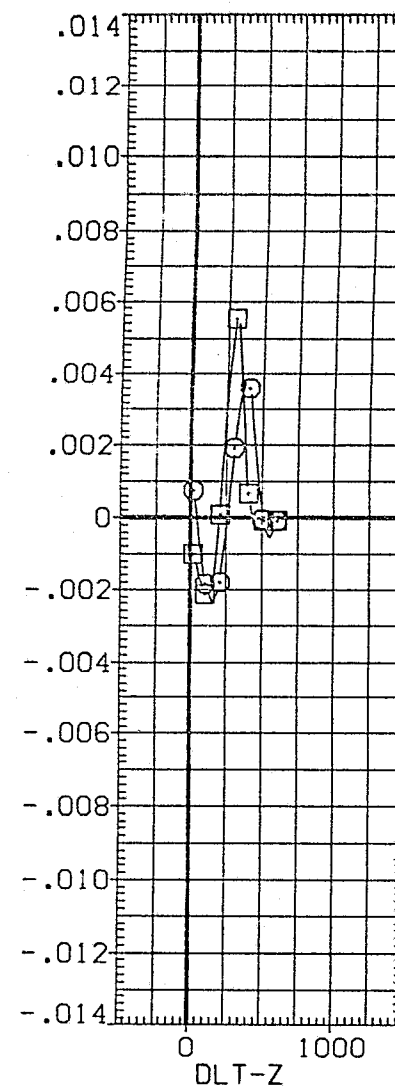
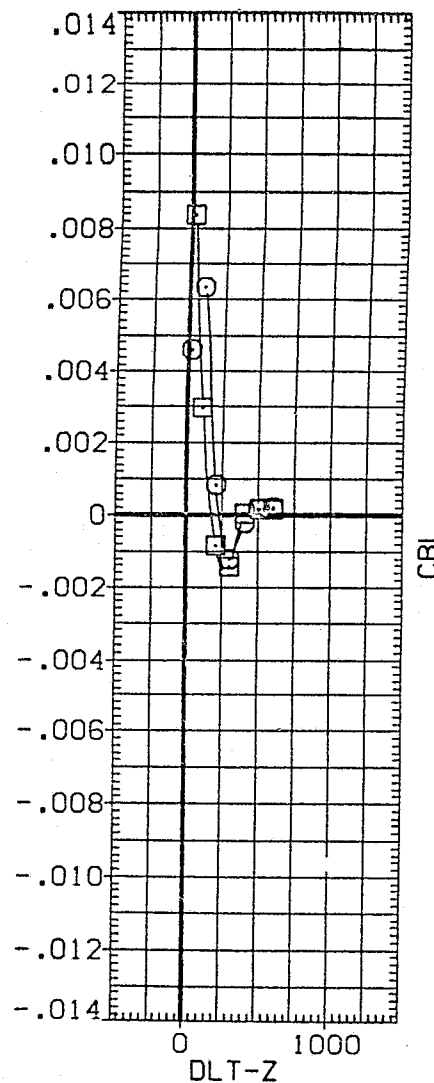
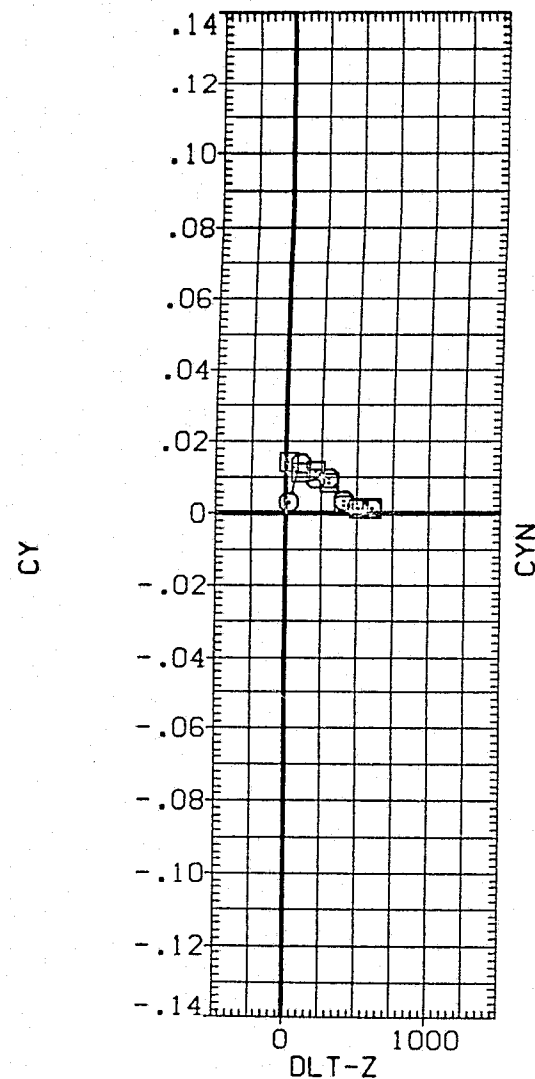


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR402)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.498	200.000	BETA	.000
□	200.450	.000	DLTALF	-10.000
◇	400.450	3.000	MACH	5.930
		AILRON	ELEVON	.000
		GRID		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

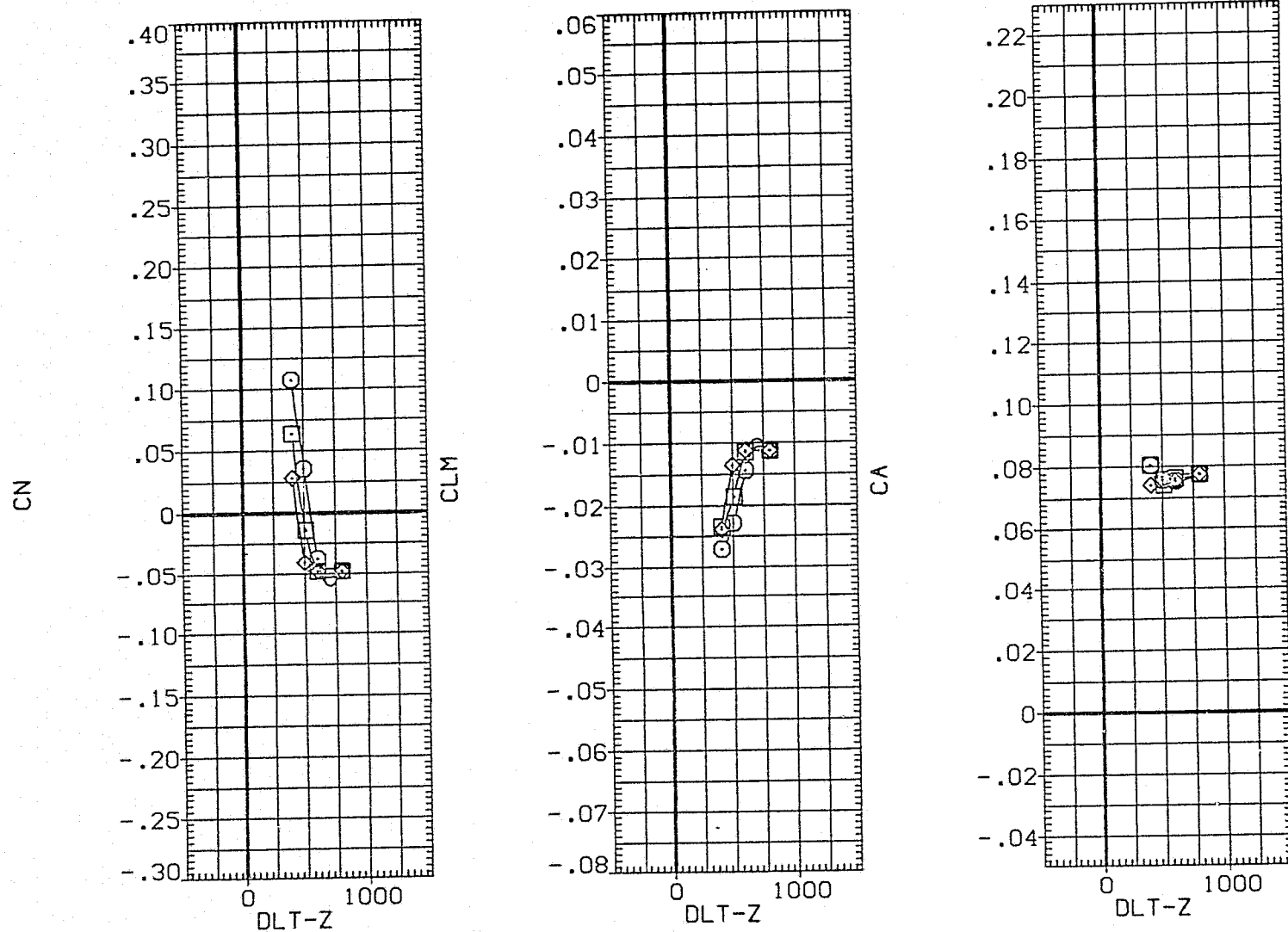


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR402)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.498	200.000	BETA	.000	DLTALF -10.000
□	200.450	3.000	DLTBT	5.930	MACH
◇	400.450	.000	AILRON	.000	ELEVON
		1.000	GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

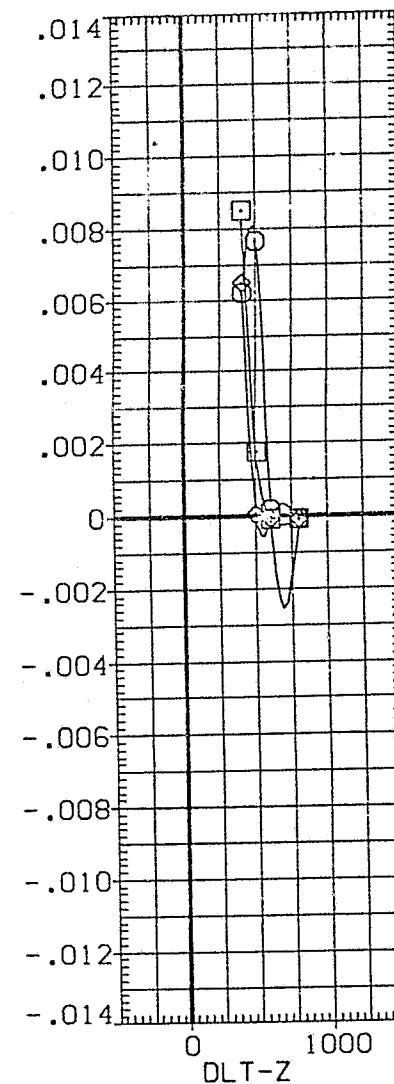
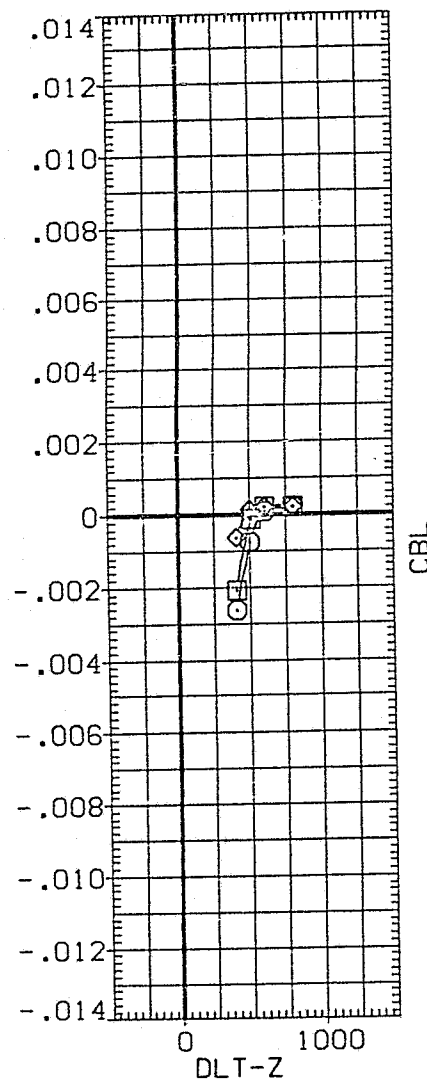
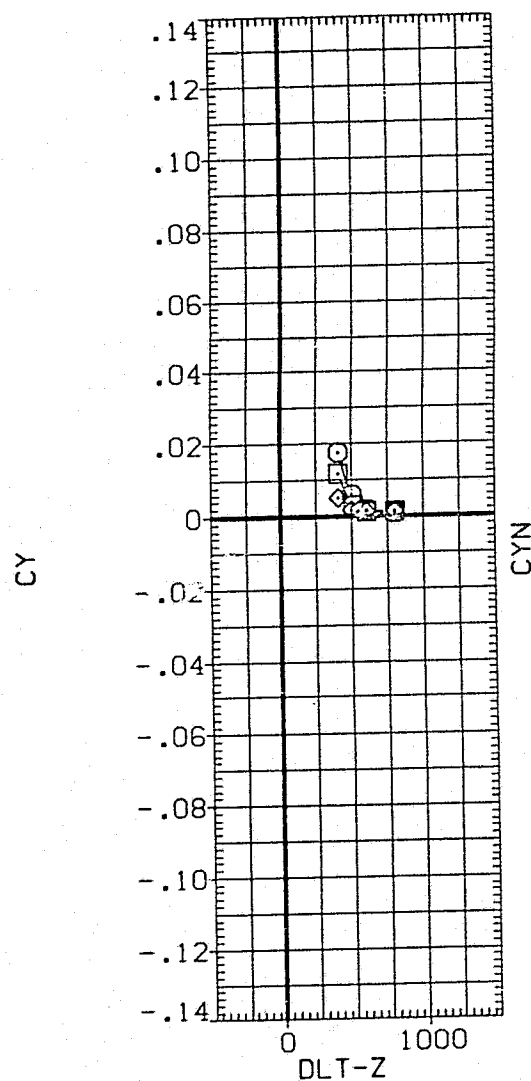


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR403)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	DLTALF
○	.499	200.450	BETA	.000	-20.000
□	200.450	DLTBTA	3.000	MACH	5.930
◇	400.420	AIRLON	.000	ELEVON	.000
		GRID	1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

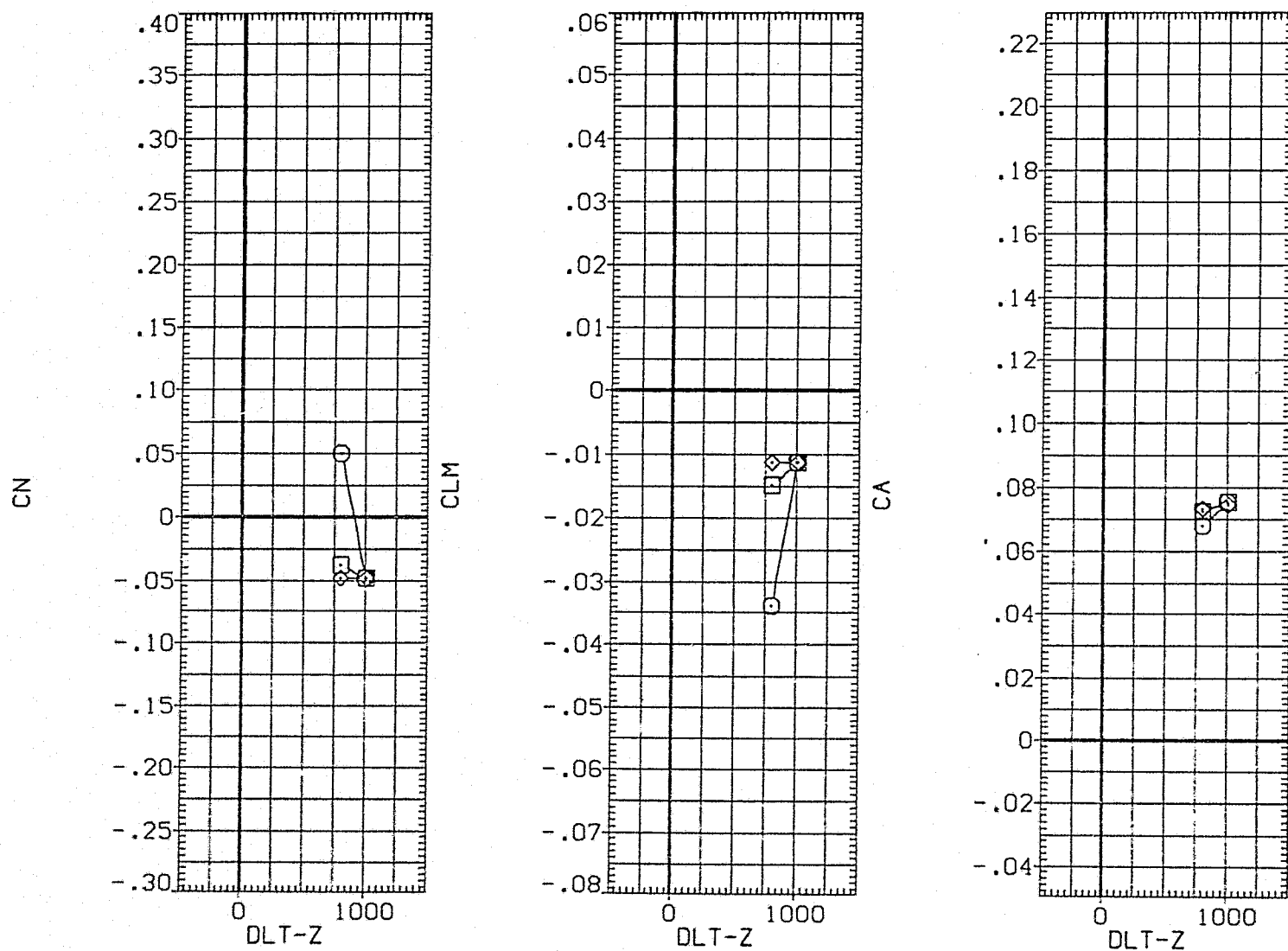


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR403)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.499		ALPHA .000
□	200.450	BETA .000	DLTALF -20.000
◇	400.420	DLTBT A 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 1.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

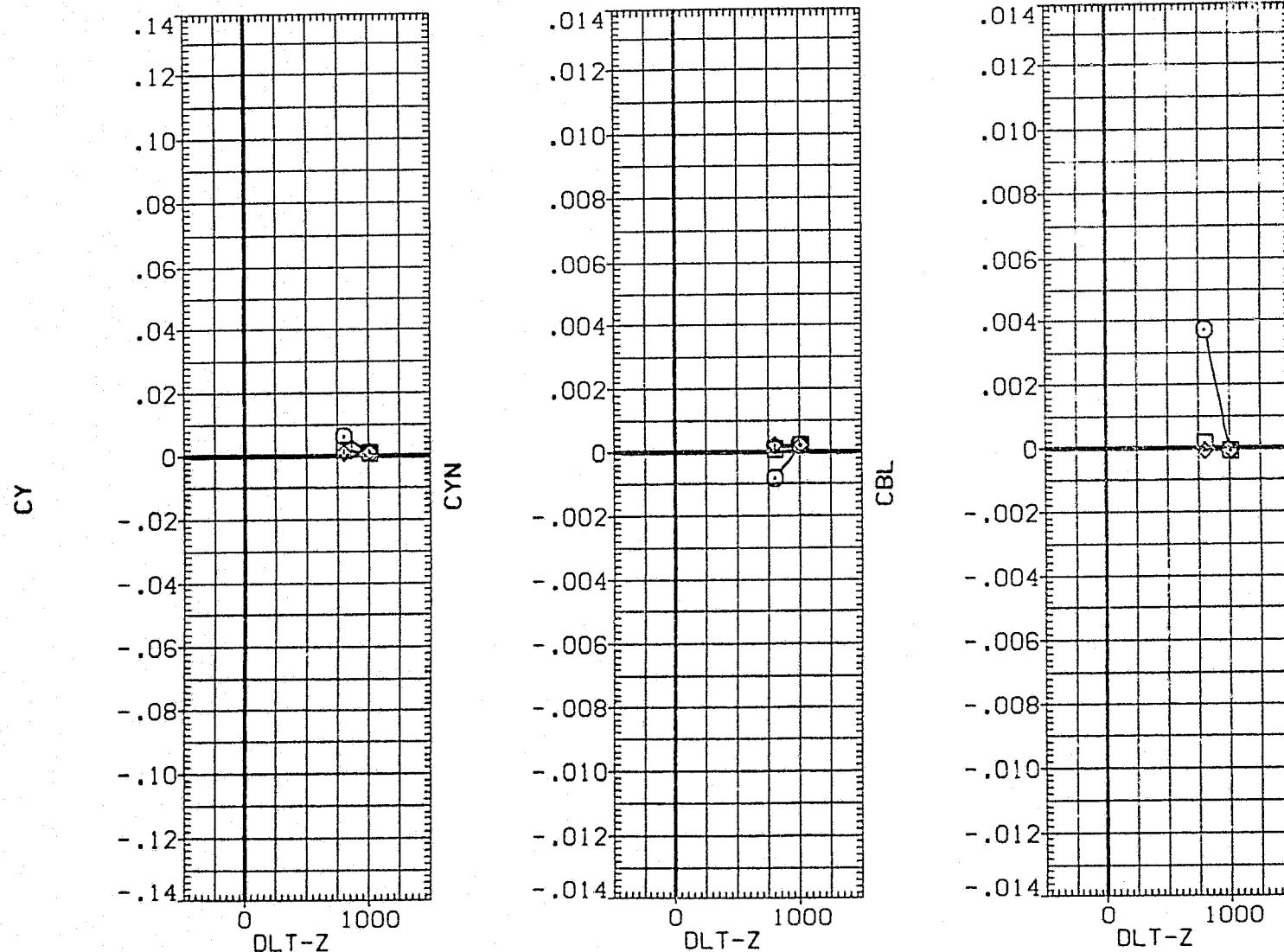


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR405)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.329	200.000	BETA	.000	.000
□	200.450	3.000	DLTALF	-20.000	
◇	400.450	.000	MACH	5.930	
		26.000	ELEVON	.000	
			GRID		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

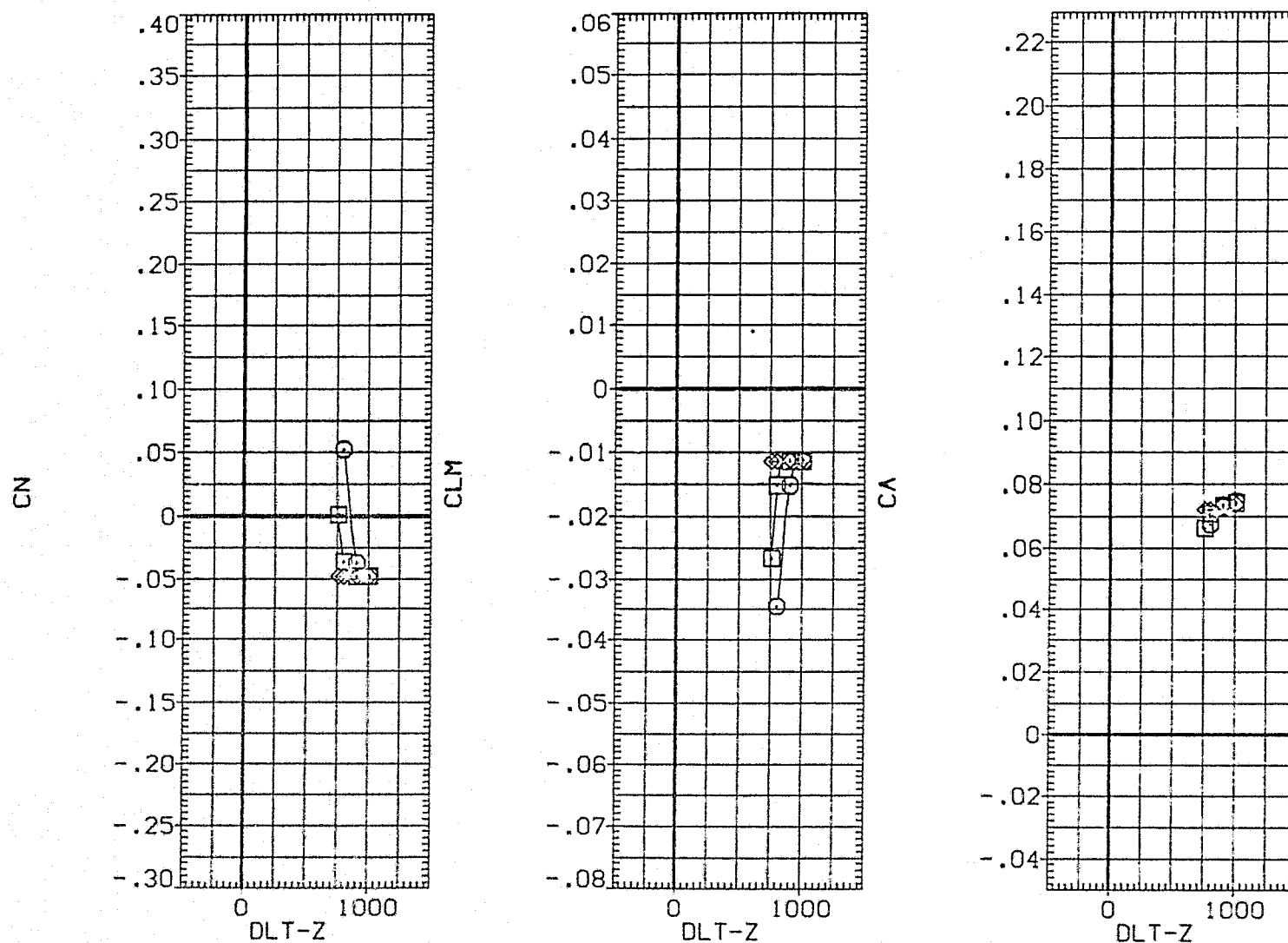


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR405)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.329	200.000	DLTALF	.000
□	200.450	BETA	MACH	-20.000
◇	400.450	DLTBT	ELEVON	5.930
		AILRON		.000
		GRID		26.000

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

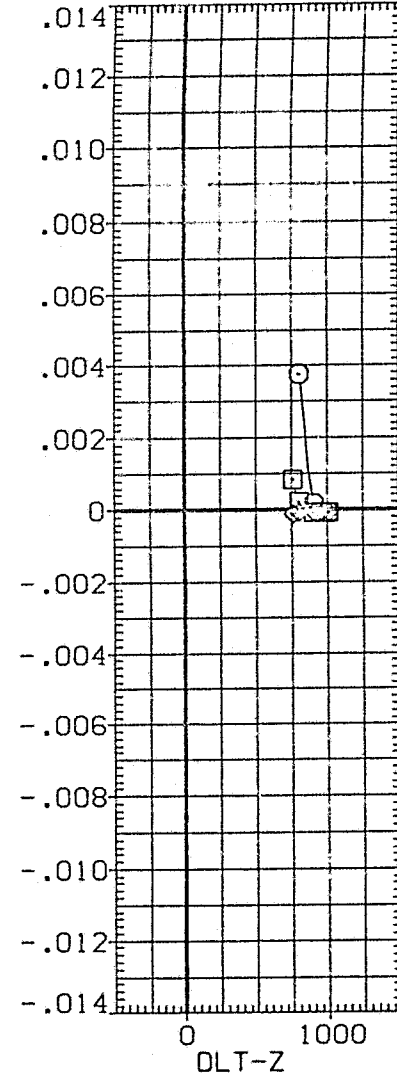
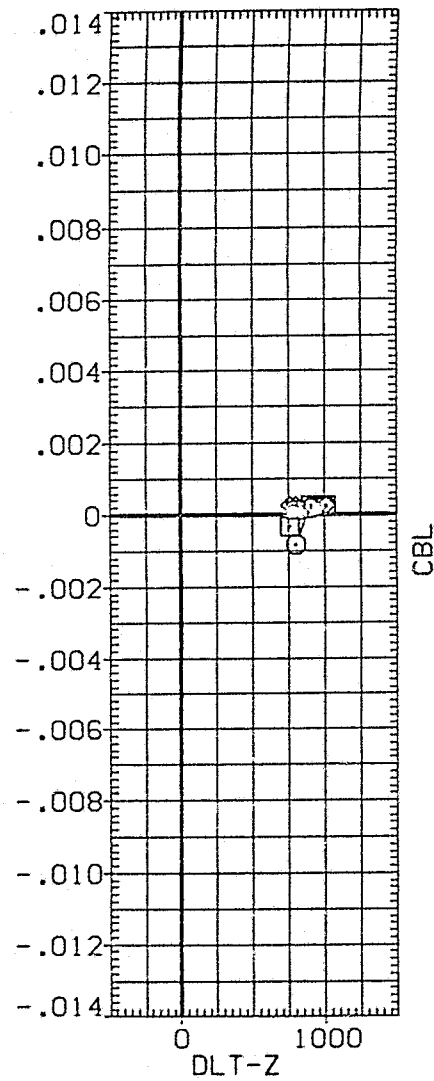
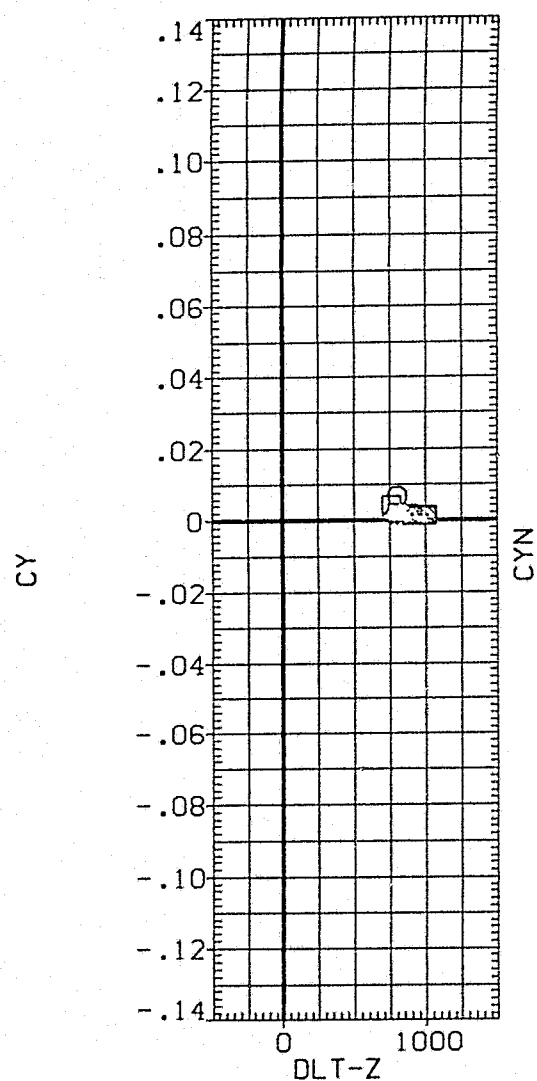


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)



AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR406)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.624	BETA	200.000	ALPHA
□	200.550	DLTBTA	3.000	DLTALF
		AILRON	.000	MACH
		GRID	3.000	ELEVON

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

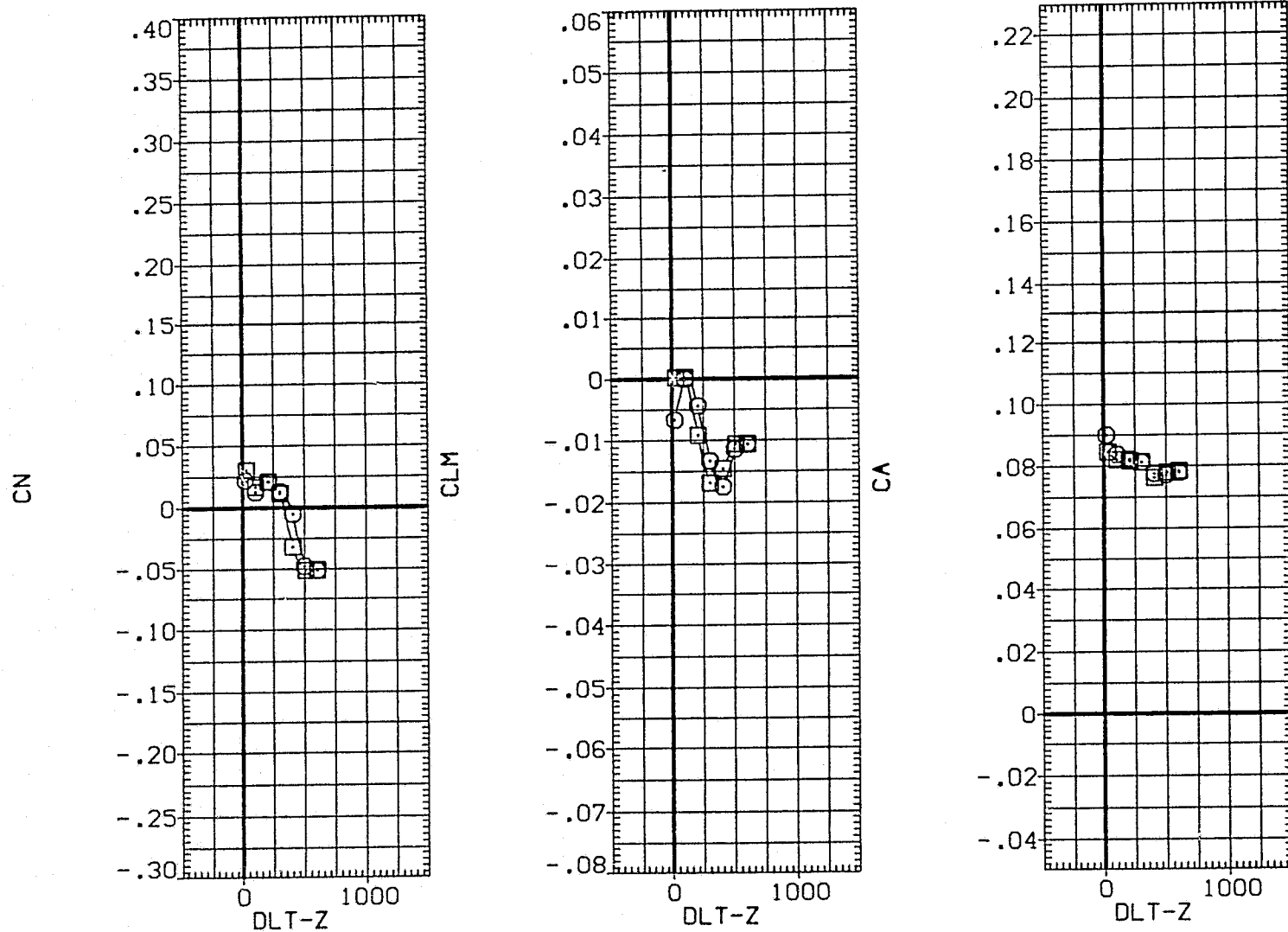


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y = 200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR406)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.624	BETA	200.000	ALPHA .000
□	200.550	DLTBTA	3.000	DLTALF .000
		AILRON	.000	MACH 5.930
		GRID	3.000	ELEVON .000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

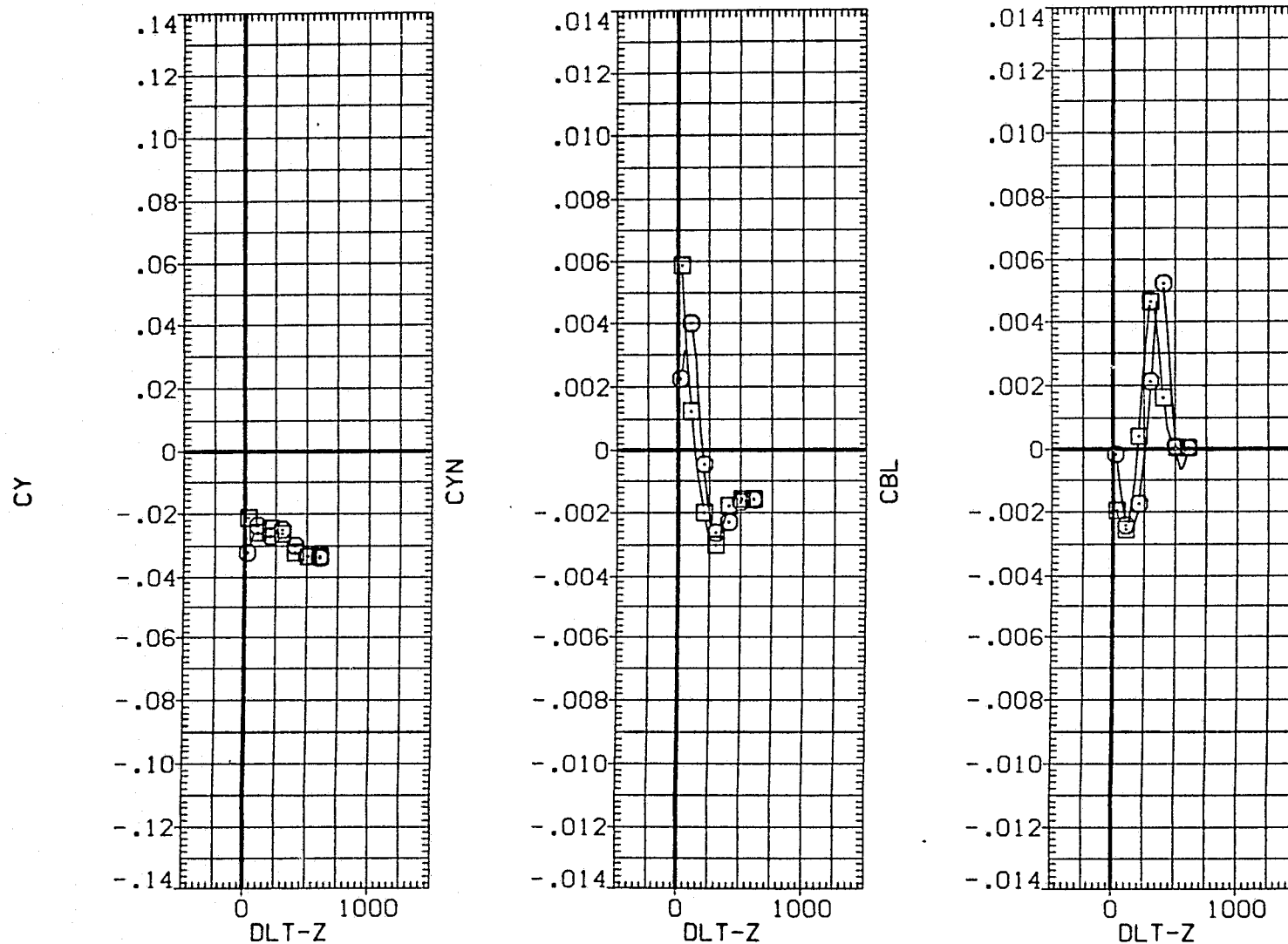


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR407)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.501	200.000	ALPHA .000
□	200.600	BETA 3.000	DLTALF -10.000
◇	400.540	DLTBTA 3.000	MACH 5.930
		AIRON .000	ELEVON .000
		GRID 3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

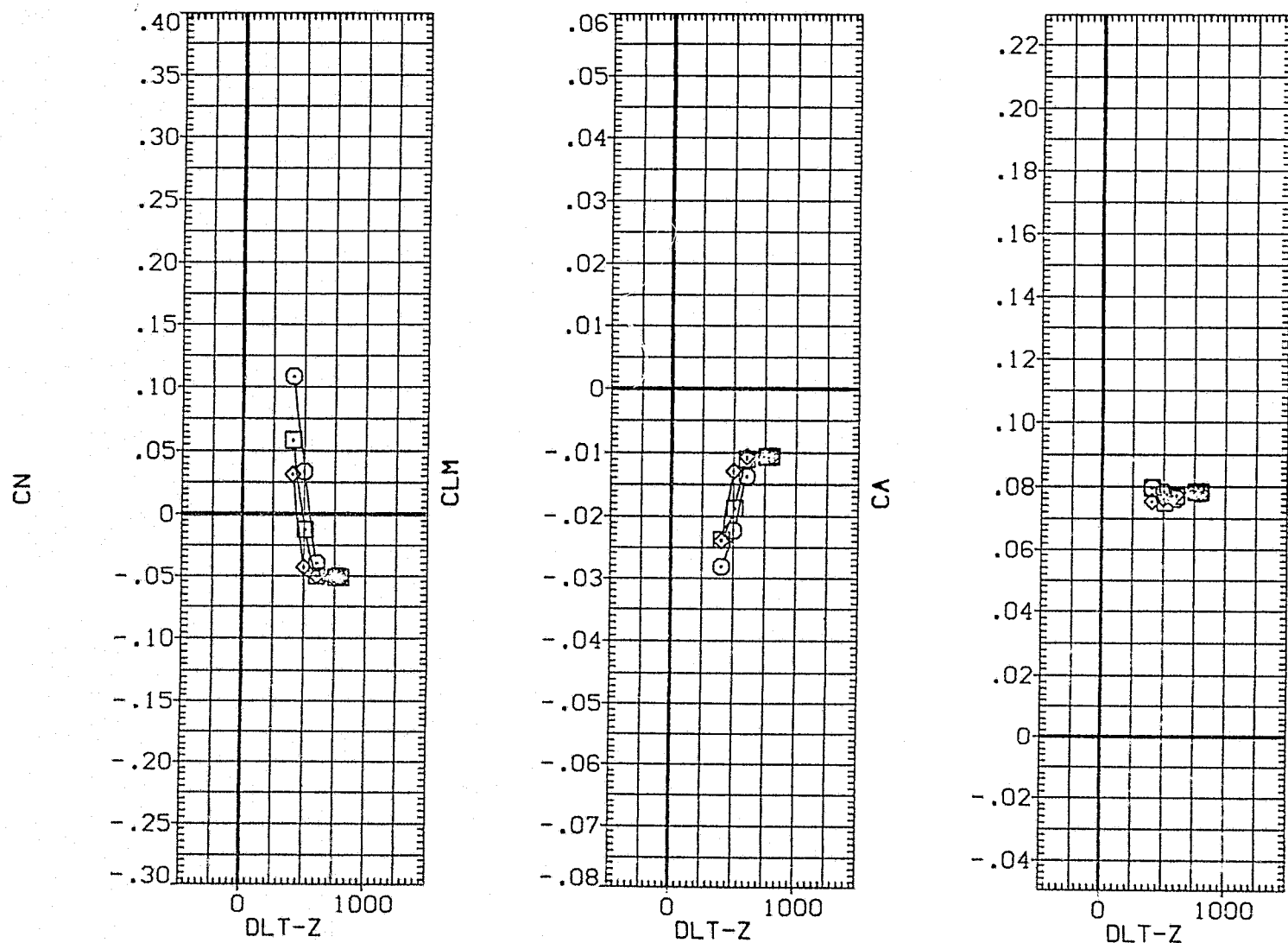


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR407)

SYMBOL	DLT-X		PARAMETRIC VALUES	
	DLT-Y	DLT-Z	ALPHA	DLTALF
○	.501	200.000	.000	-10.000
□	200.600	BETA	3.000	5.930
◇	400.540	DLTBT	3.000	ELEVON
		AILRON	.000	.000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

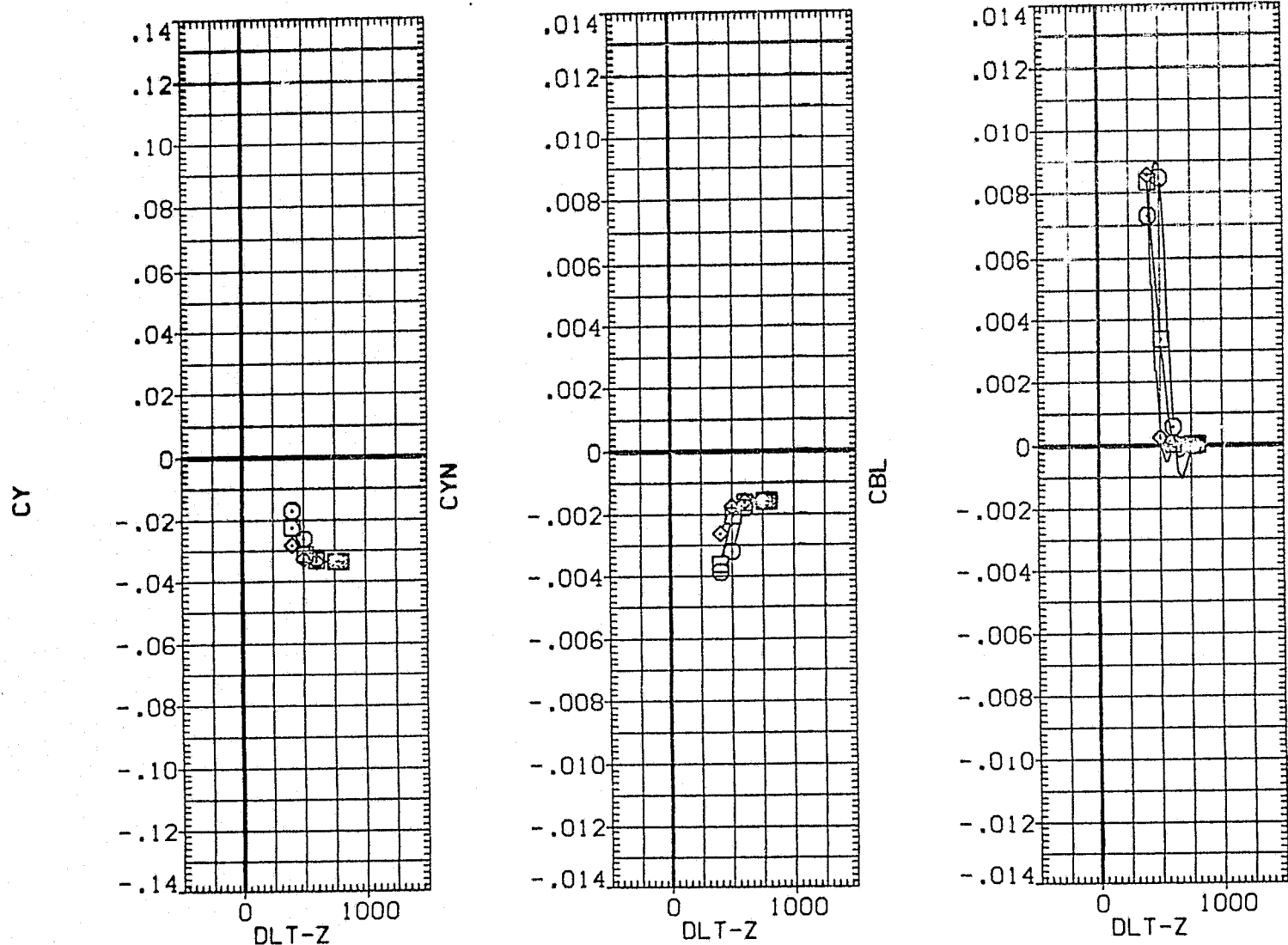


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR409)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.502		200.000	ALPHA .000
□	200.560	BETA	3.000	DLTALF -20.000
◇	400.480	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	3.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

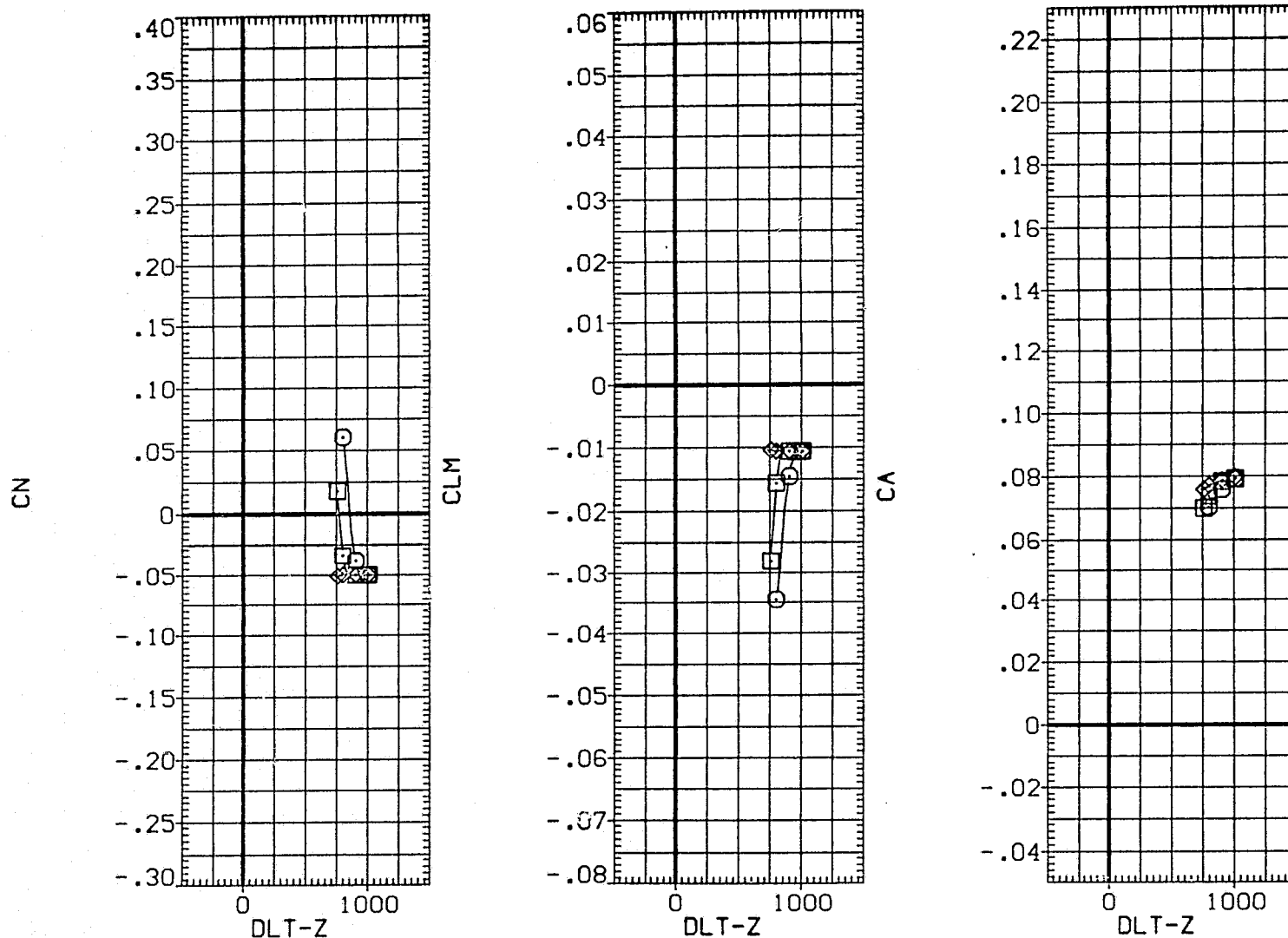


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR409)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.502	200.000	BETA	3.000	DLTALF
□	200.560	3.000	DLTBTA	3.000	MACH
◇	400.480	.000	AILRON	.000	ELEVON
		GRID	3.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

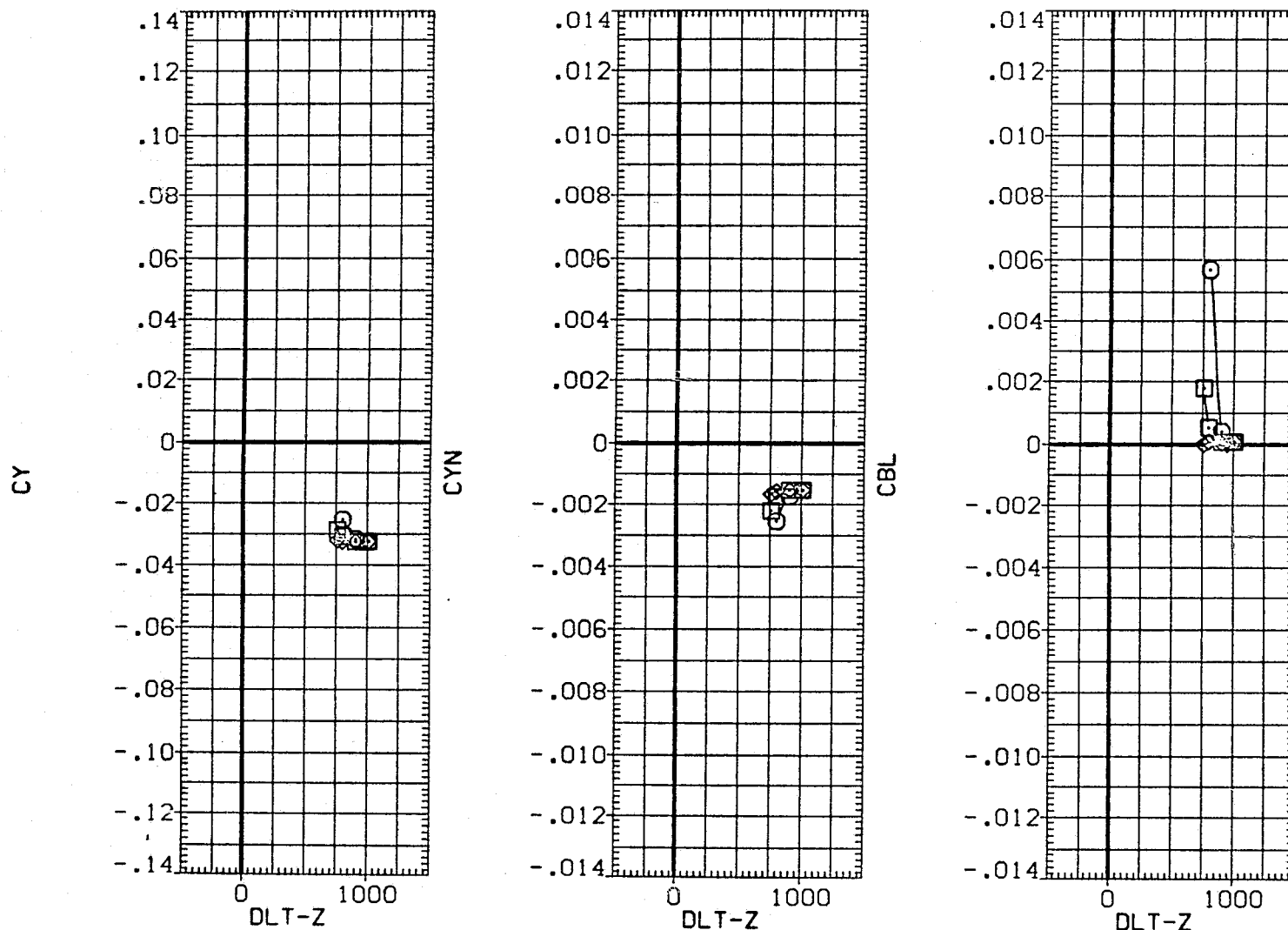


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR410)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.553	200.000	ALPHA	5.000
□	200.470	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	.000
		5.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

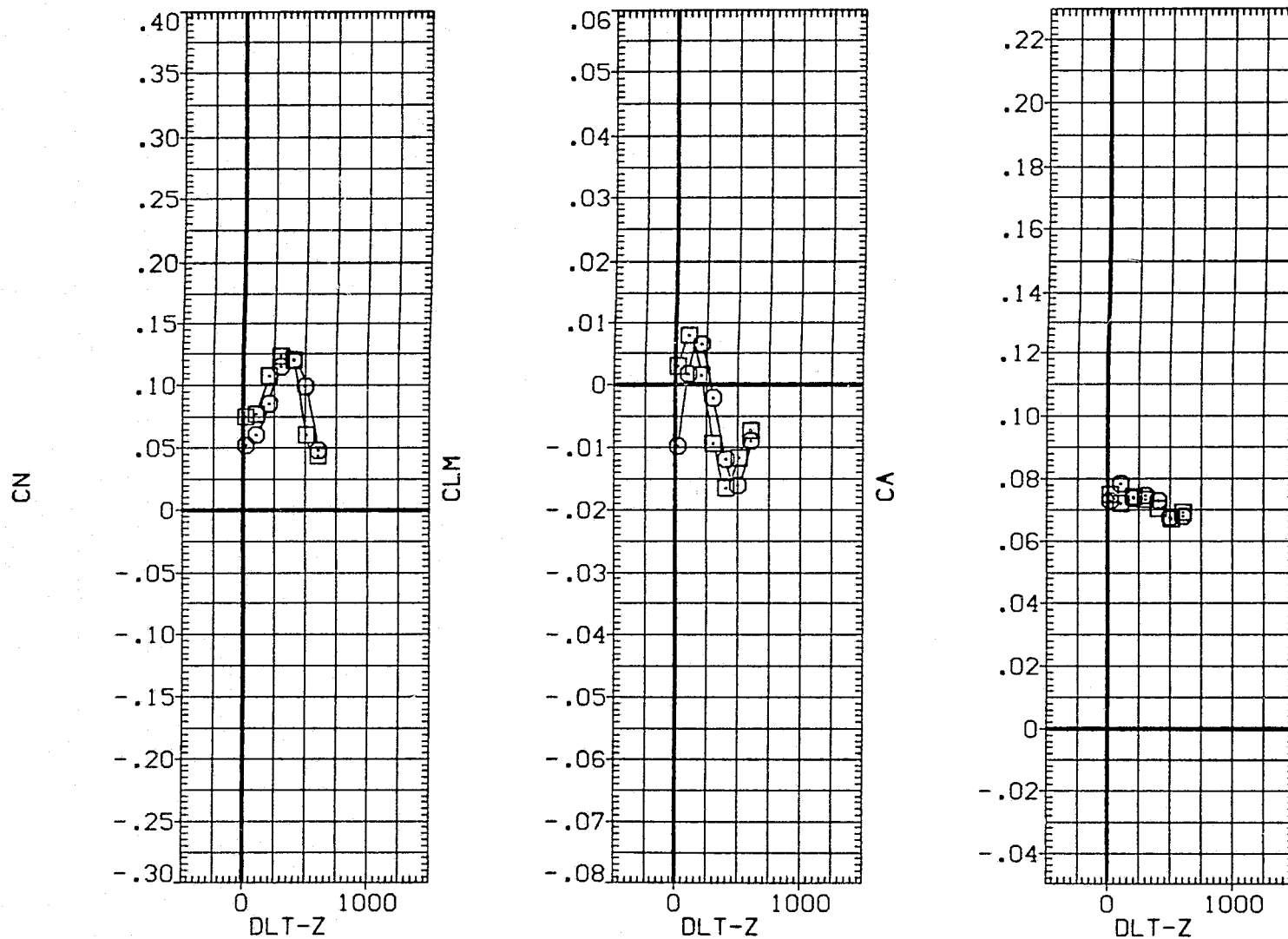


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR410)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH	ELEVON
○	.553	200.470	200.000	.000	5.000	.000
□	BETA	DLTBTA	3.000	.000	5.930	.000
	AILRON	GRID	5.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

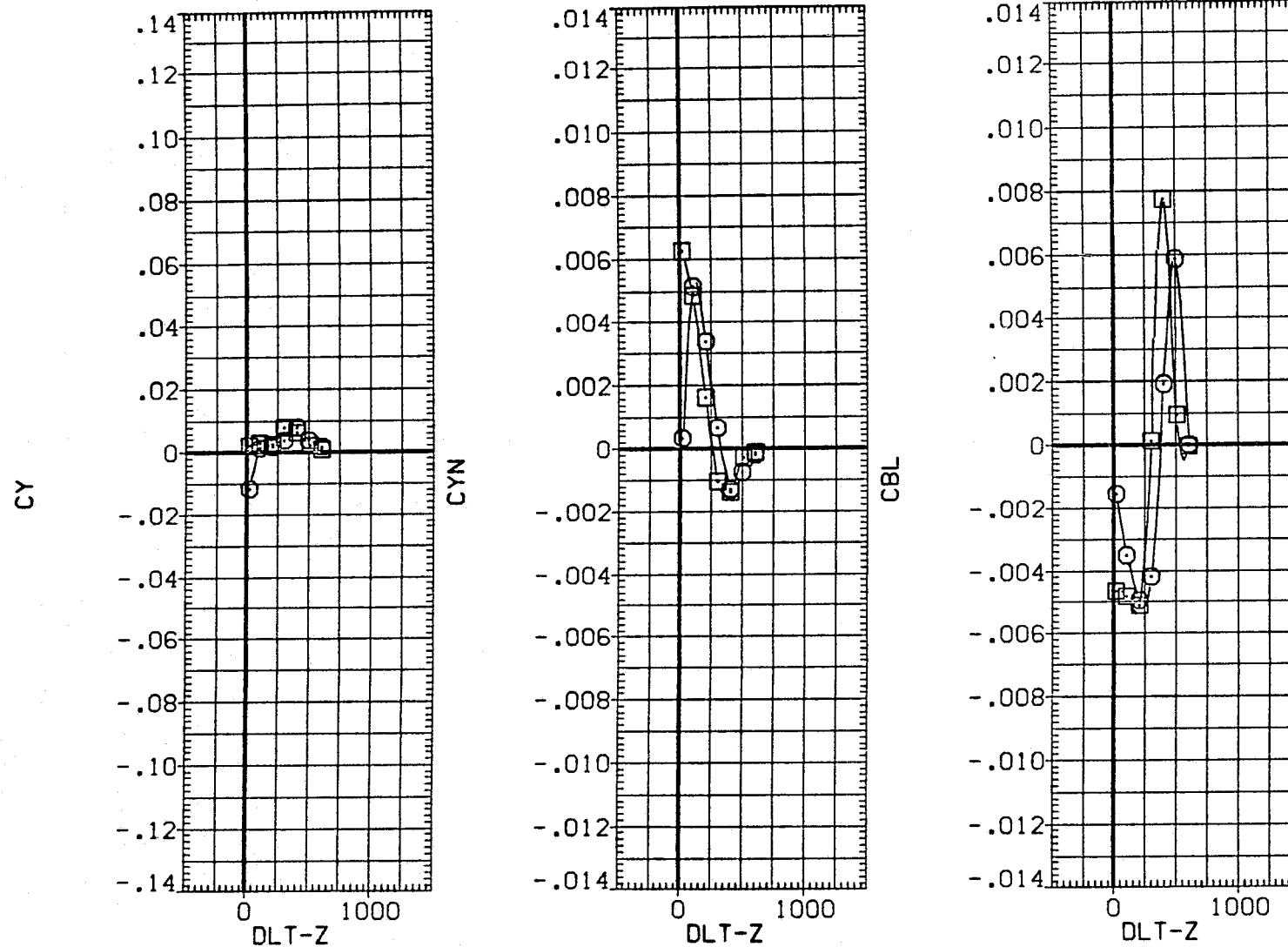


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR411)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.557	200.000	ALPHA	5.000
□	200.520	BETA	.000	DLTALF -10.000
◇	400.510	DLTBTA	3.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

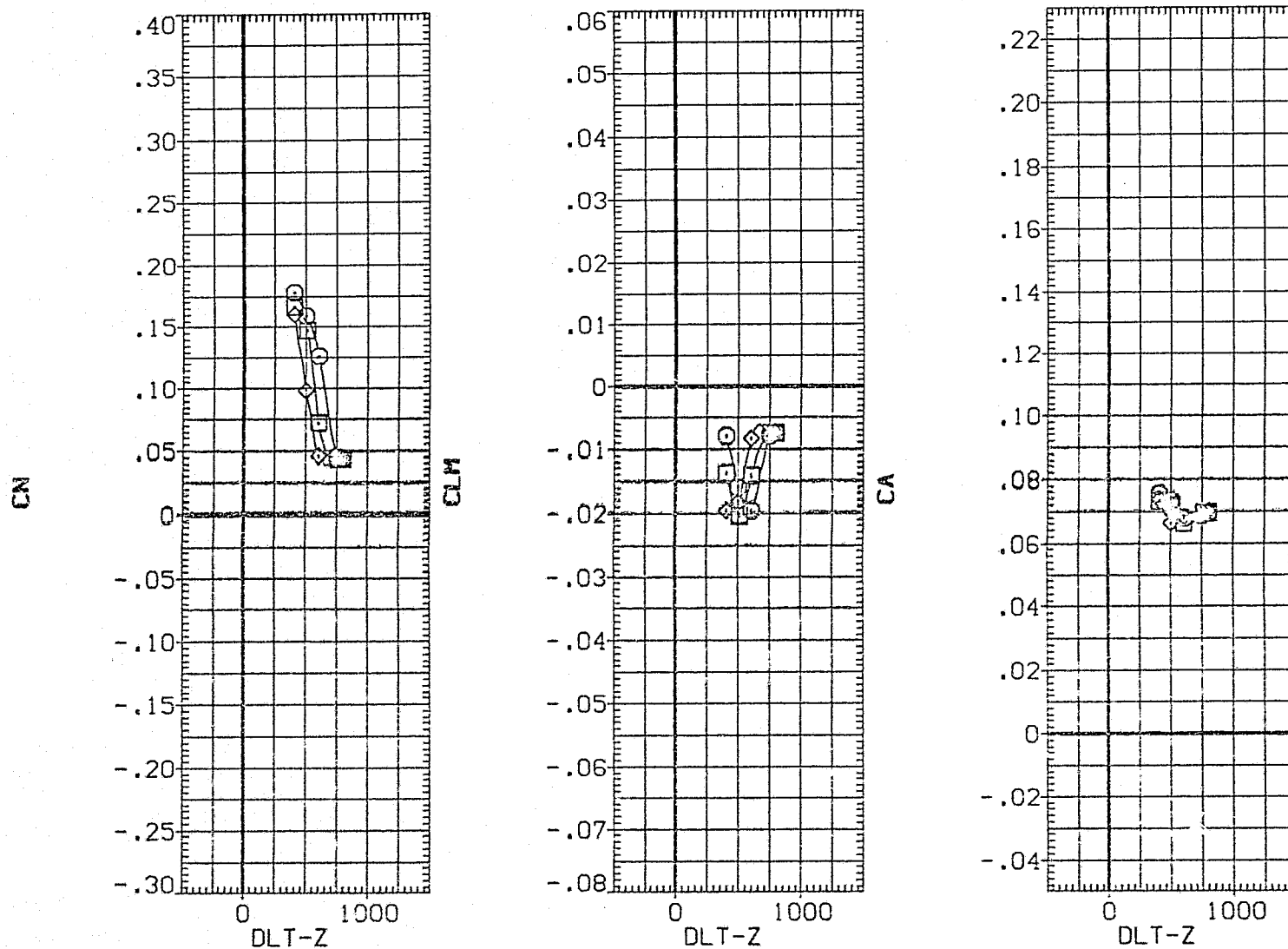


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR411)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.557	200.000	ALPHA	5.000
□	200.520	BETA	DLTALF	-10.000
◇	400.510	DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		5.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

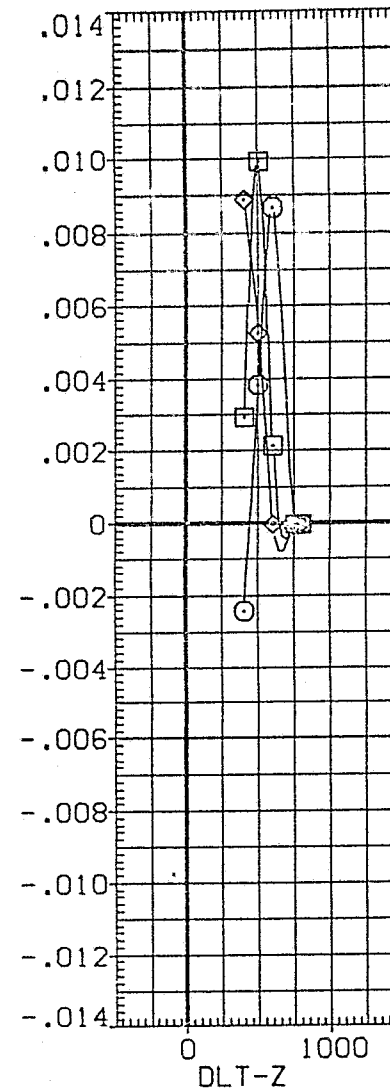
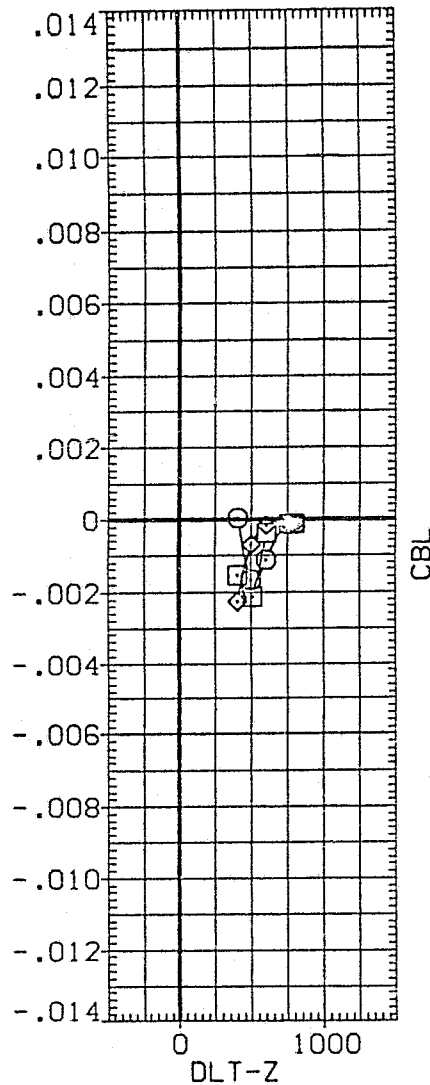
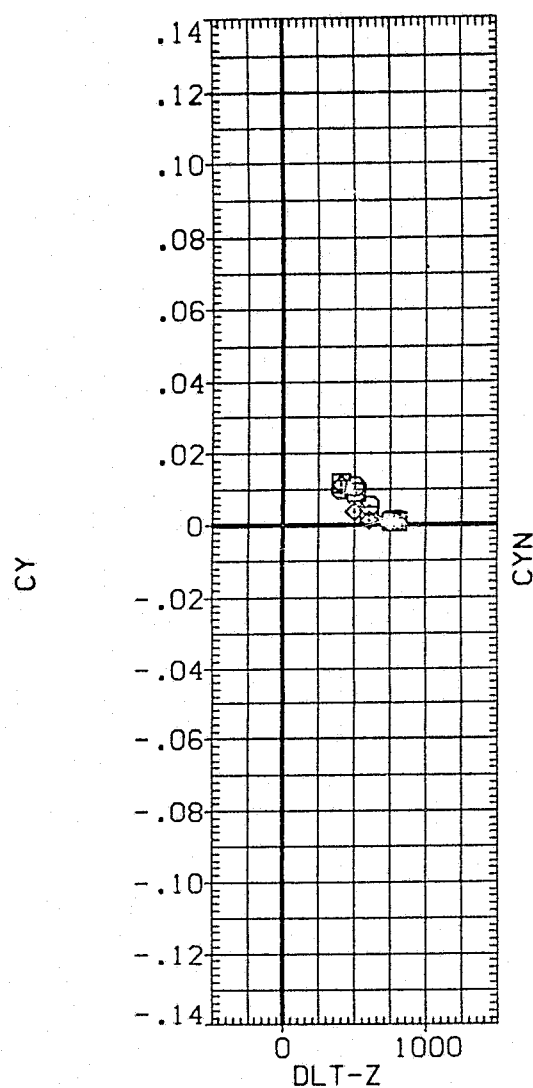


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR413)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.431		200.000	ALPHA 5.000
□	200.400	BETA	.000	DLTALF -20.000
◇	400.500	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	5.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

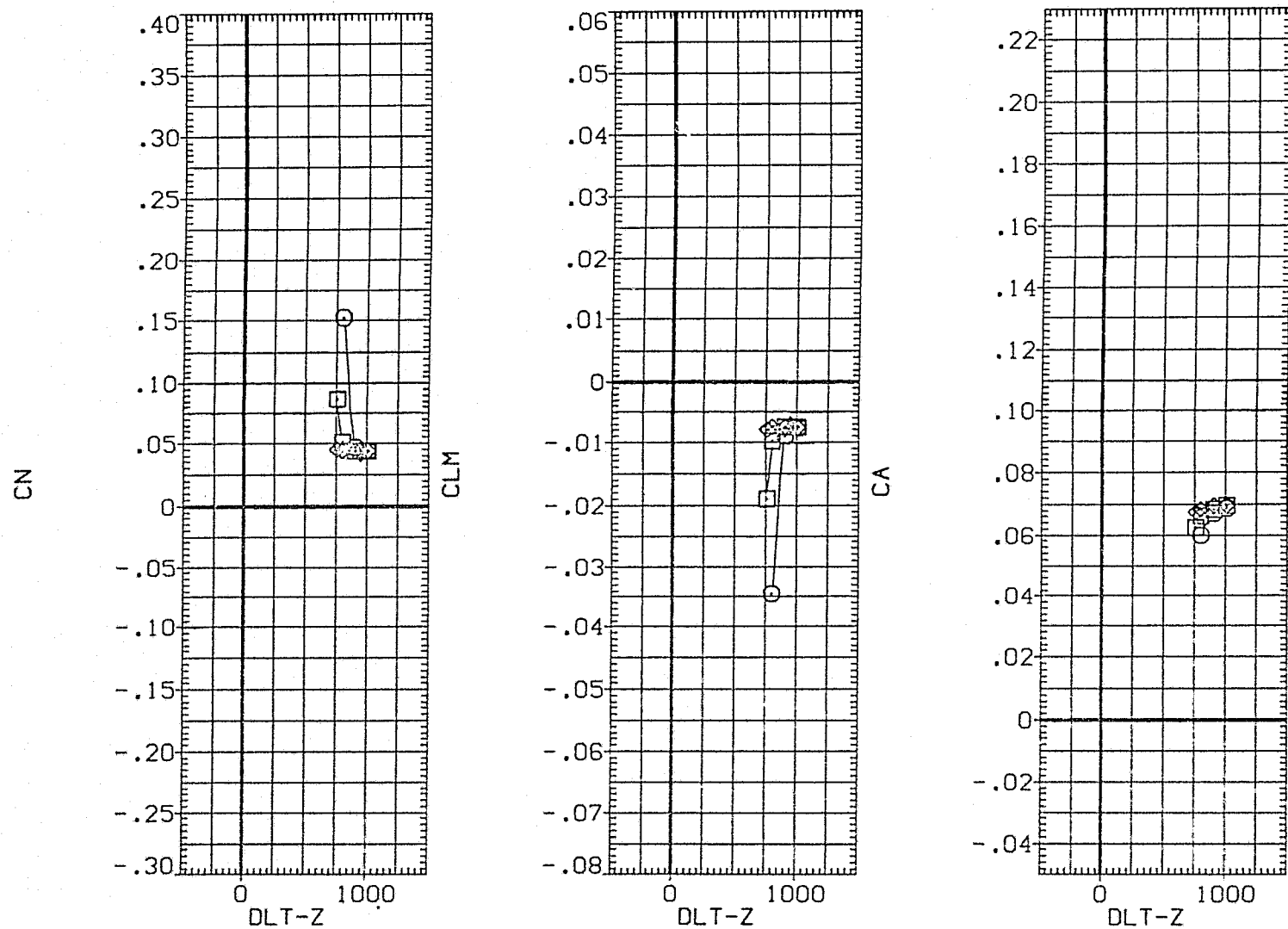


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR413)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES		
○	.431	200.000	ALPHA	5.000	
□	200.400	BETA	.000	DLTALF	-20.000
◇	400.500	DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	5.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1099.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

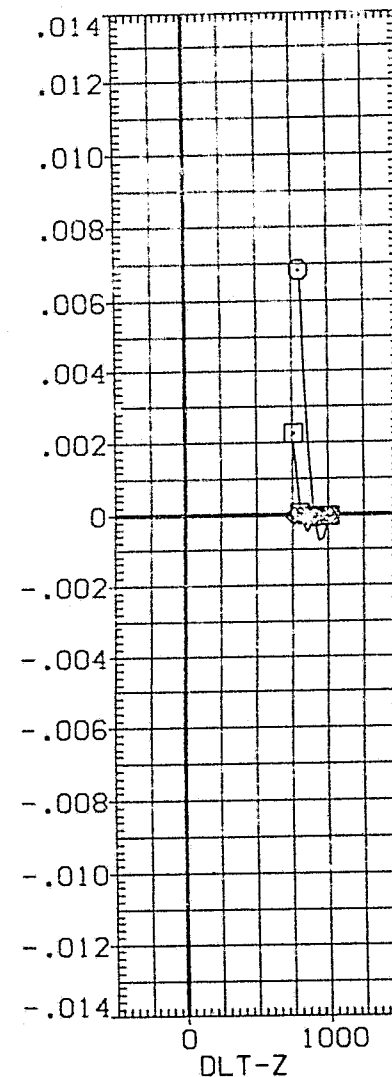
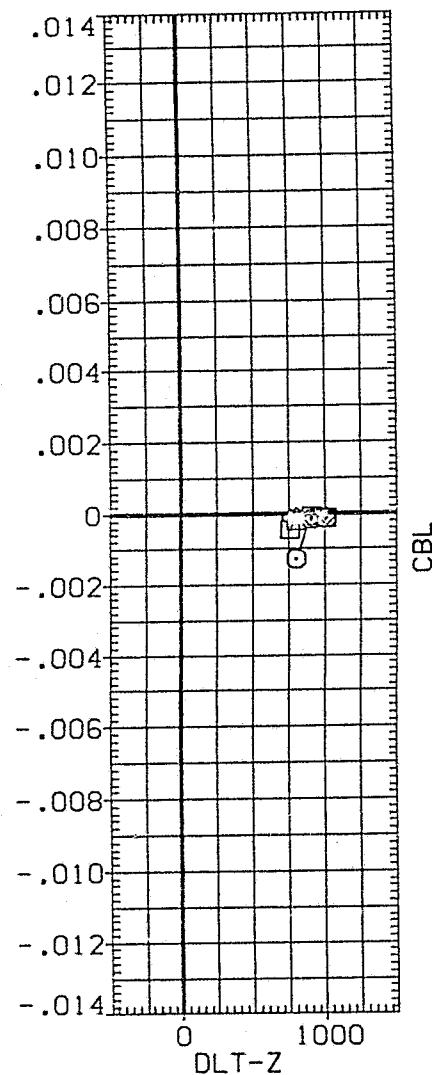
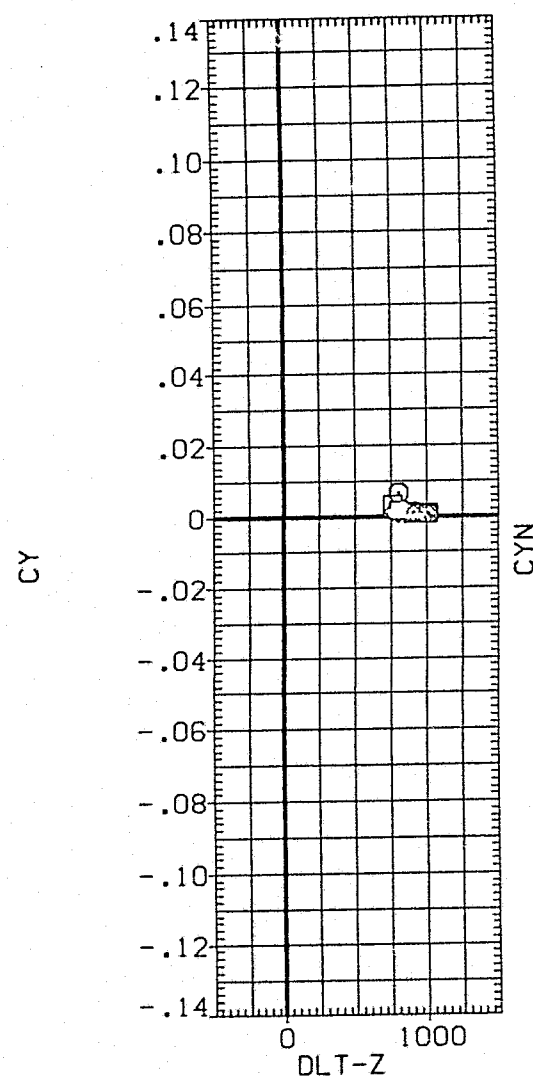


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR414)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.576	BETA	200.000	ALPHA
□	200.590	DLTBT	3.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

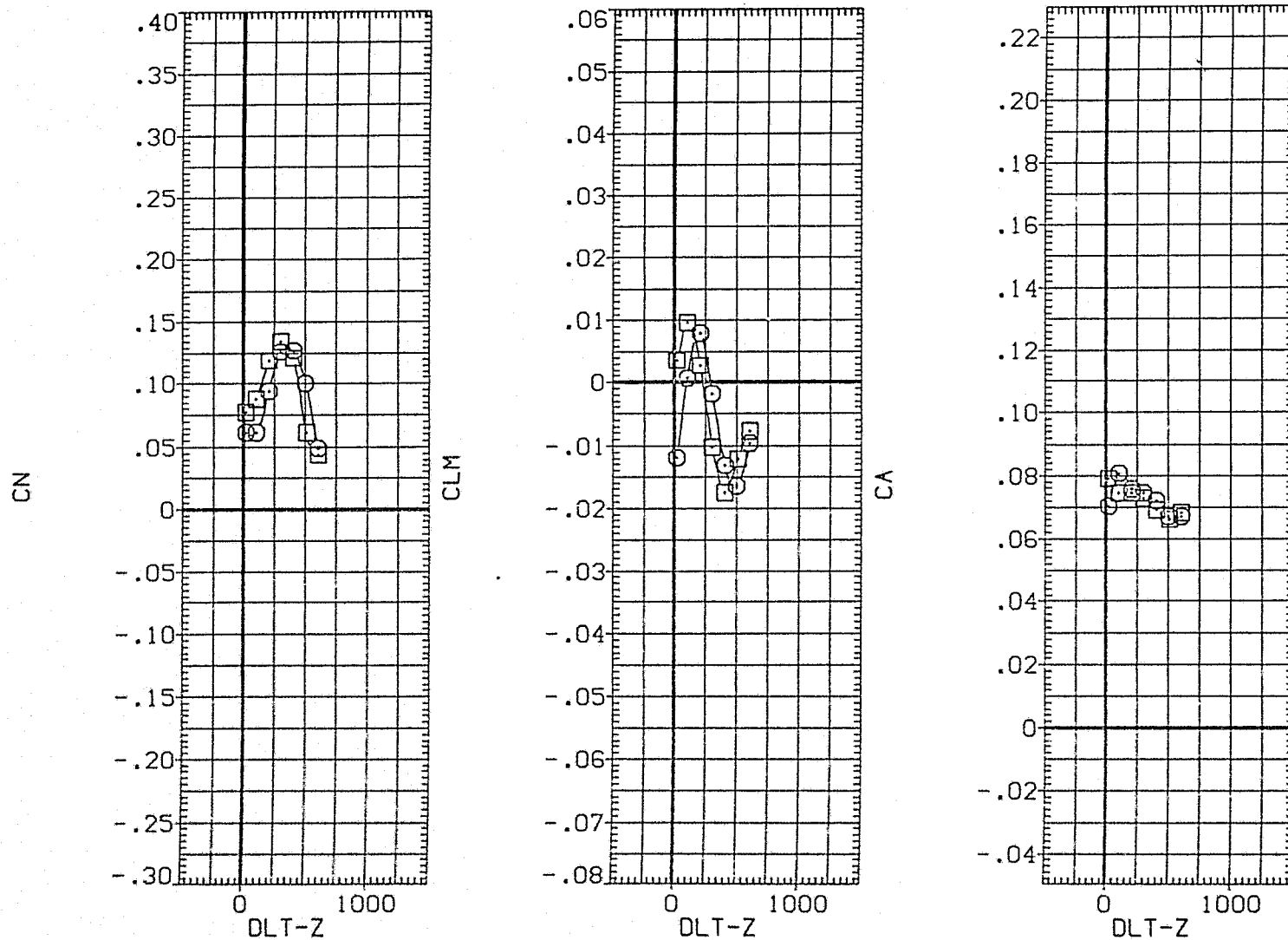


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR414)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	DLT-Z	ALPHA	DLTALF	MACH
○	.576	200.590	3.000	5.000	.000	5.930
□	200.590	BETA	3.000	MACH	.000	ELEVON
		DLTBT	.000	ELEVON	.000	
		GRID	4.000			

REFERENCE INFORMATION		
SREF	2590.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

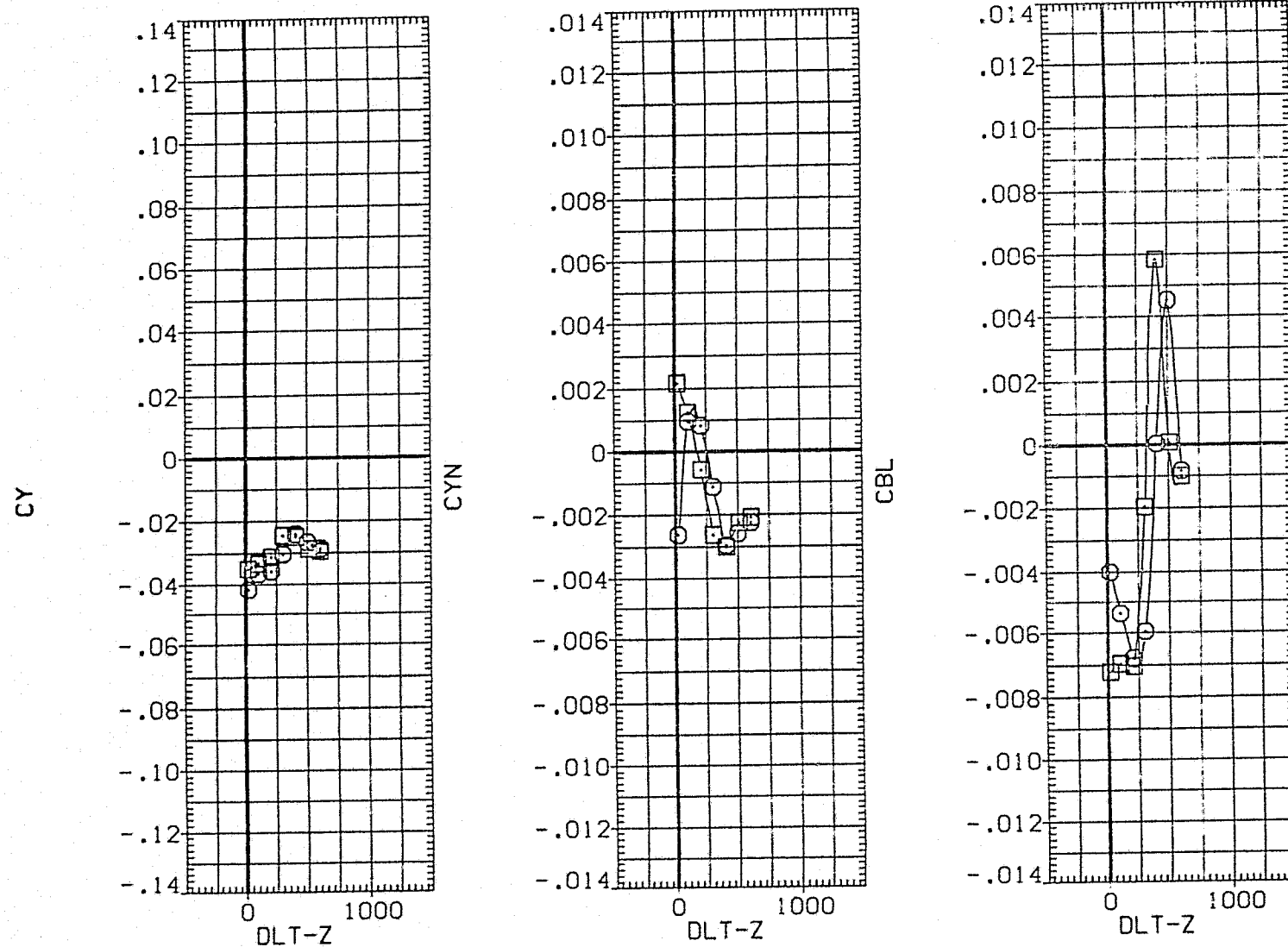


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR415)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.606	200.000	BETA	5.000
□	200.550	3.000	DLTALF	-10.000
◇	400.540	3.000	MACH	5.930
		.000	ELEVON	.000
		4.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

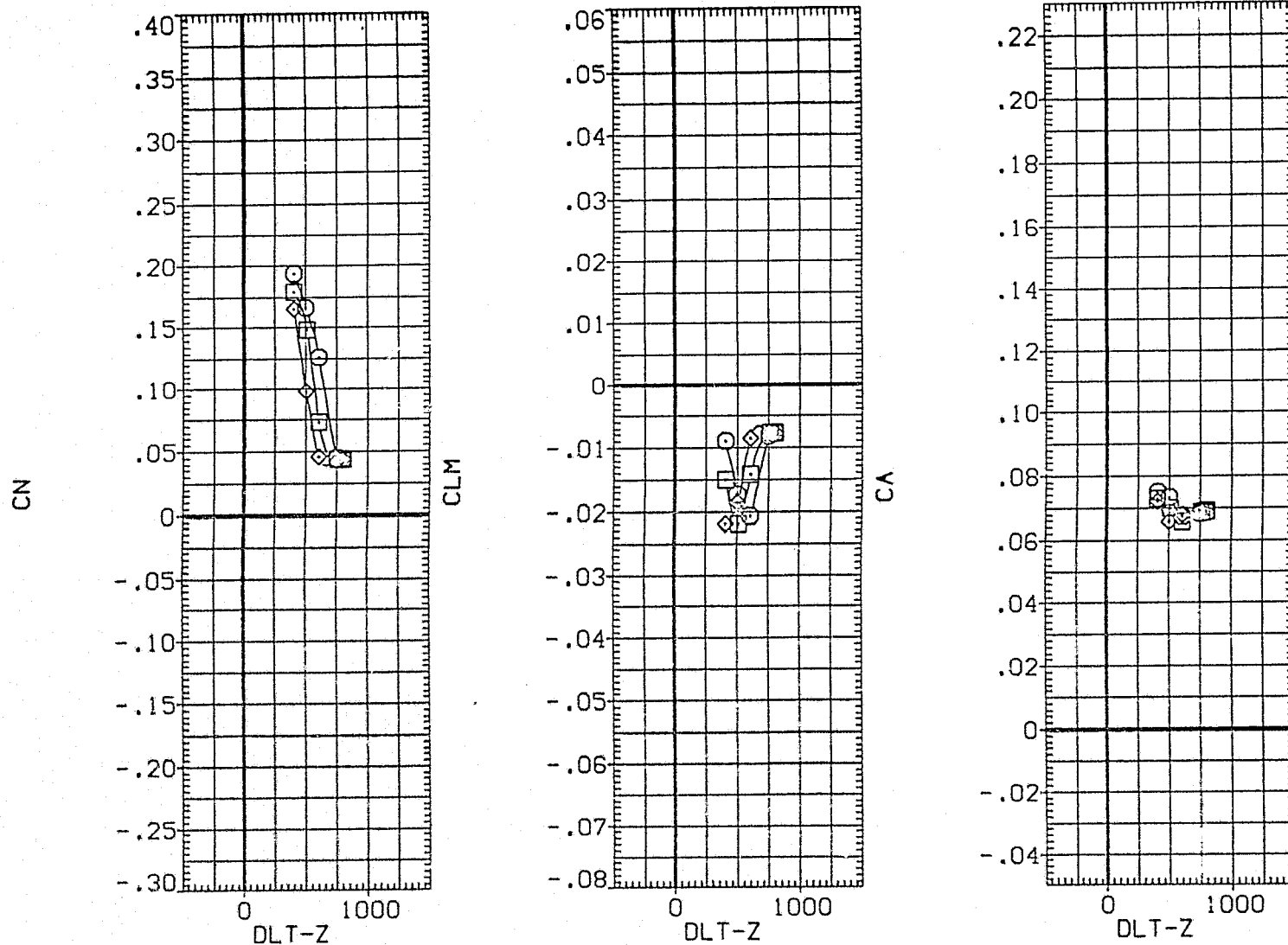


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR415)

SYMBOL



DLT-X

.606
200.550
400.540

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES

200.000
3.000
3.000
.000
4.000

ALPHA
DLTALF
MACH
ELEVON

5.000
-10.000
5.930
.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

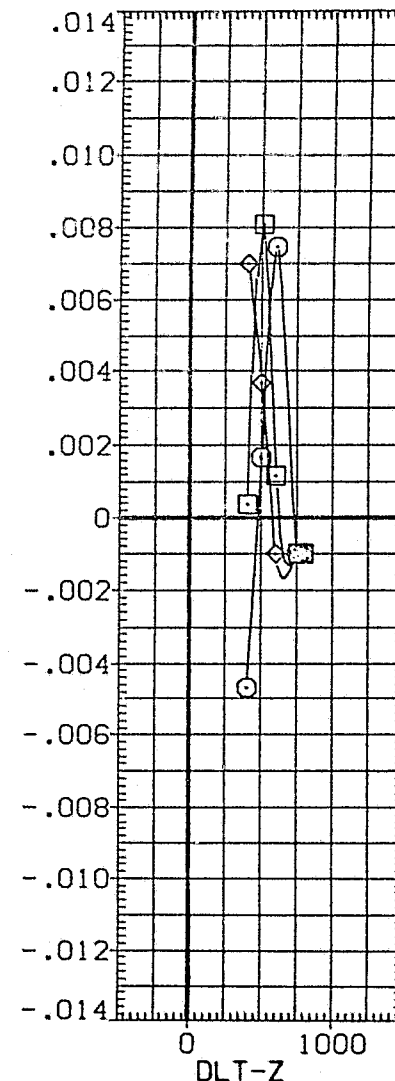
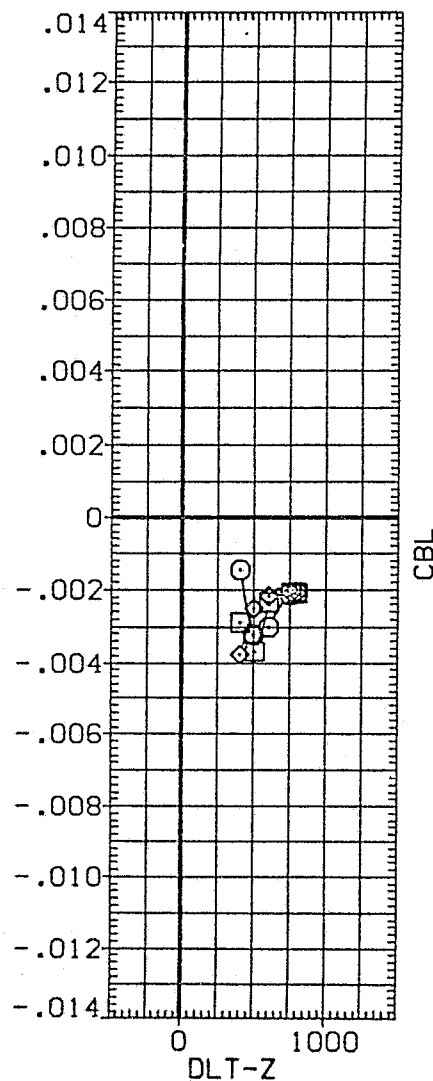
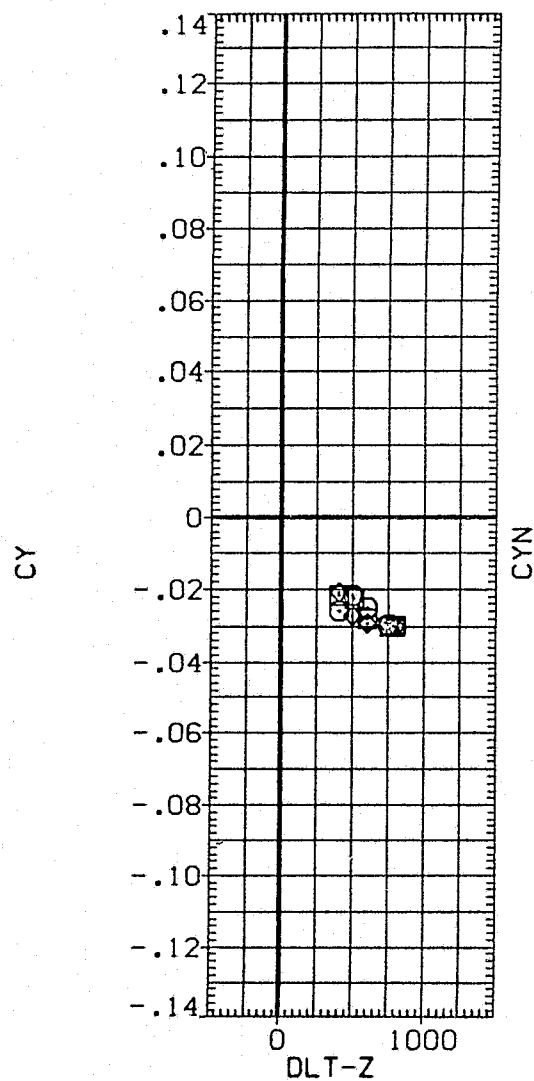


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR417)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.583		200.000	ALPHA 5.000
□	200.550	BETA	3.000	DLTALF -20.000
◇	400.550	DLTBTA	3.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	4.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

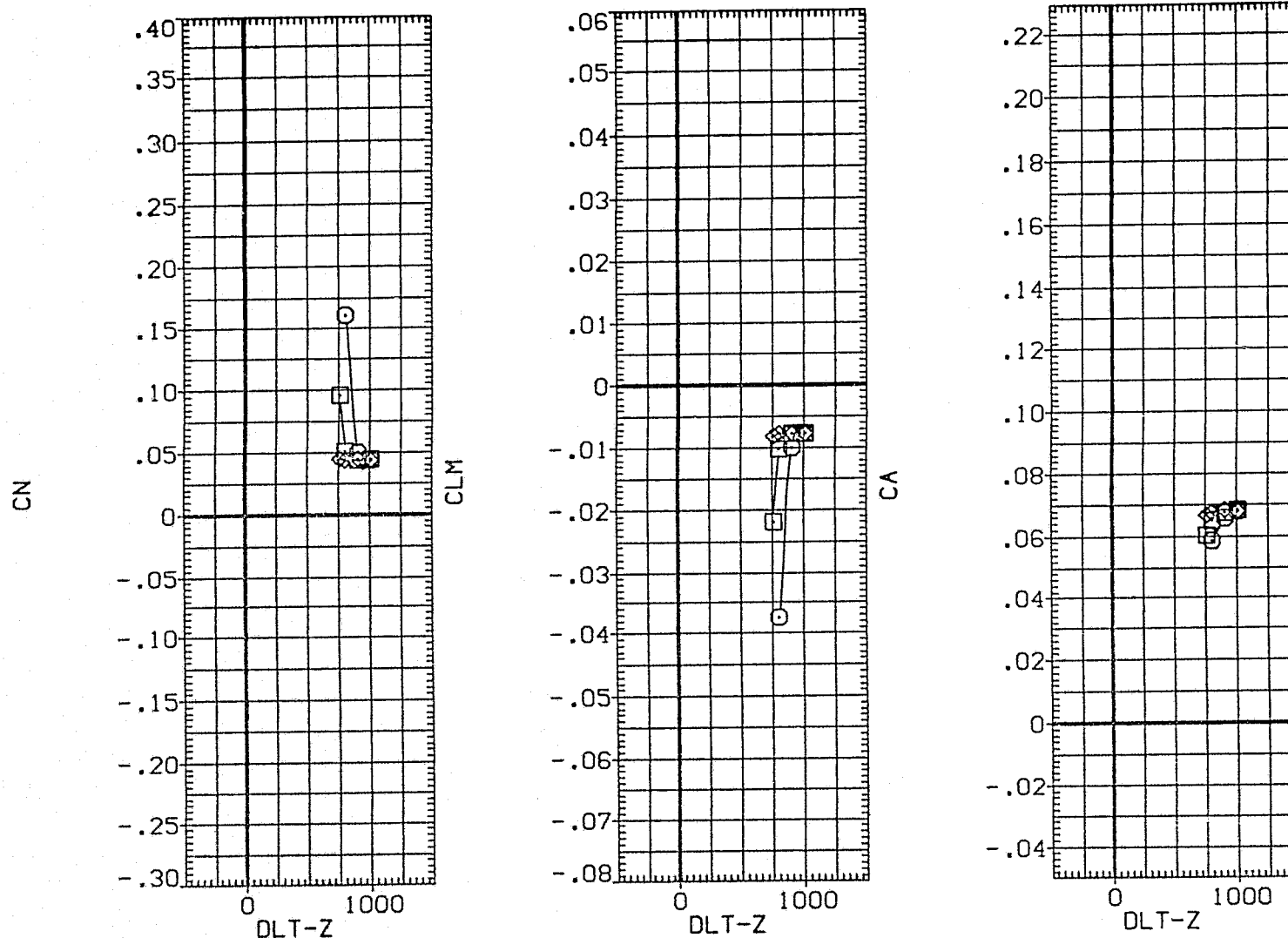


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR417)

SYMBOL	DLT-X		PARAMETRIC VALUES		
	DLT-X	DLT-Y	DLT-Y	ALPHA	
○	.583	BETA	200.000	3.000	5.000
□	200.550	DLTBT	3.000	DLTALF	-20.000
◇	400.550	AILRON	.000	MACH	5.930
		GRID	4.000	ELEVON	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

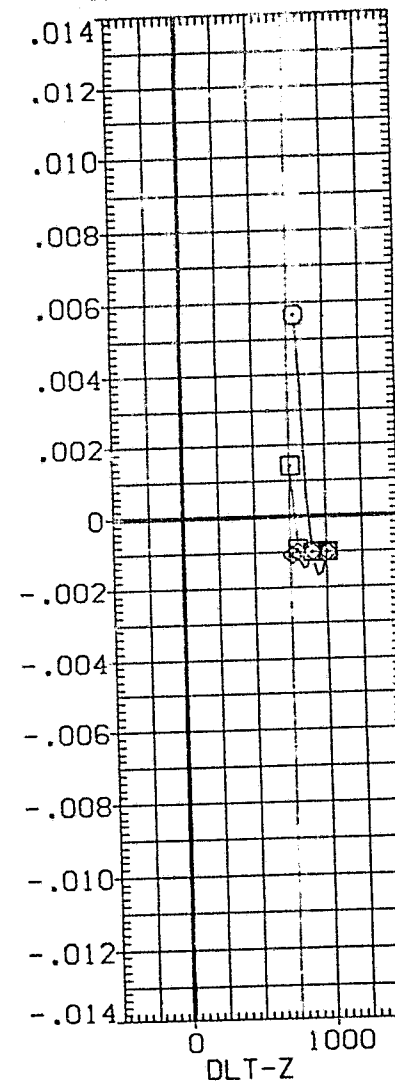
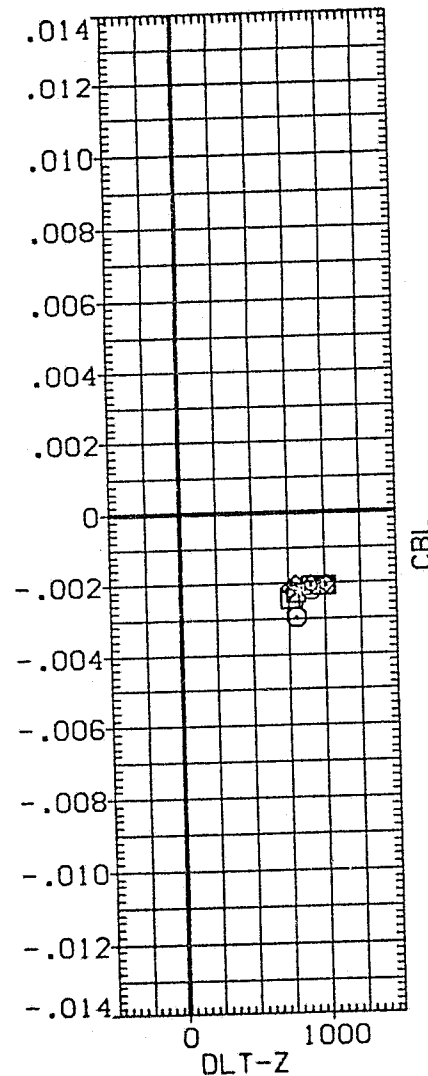
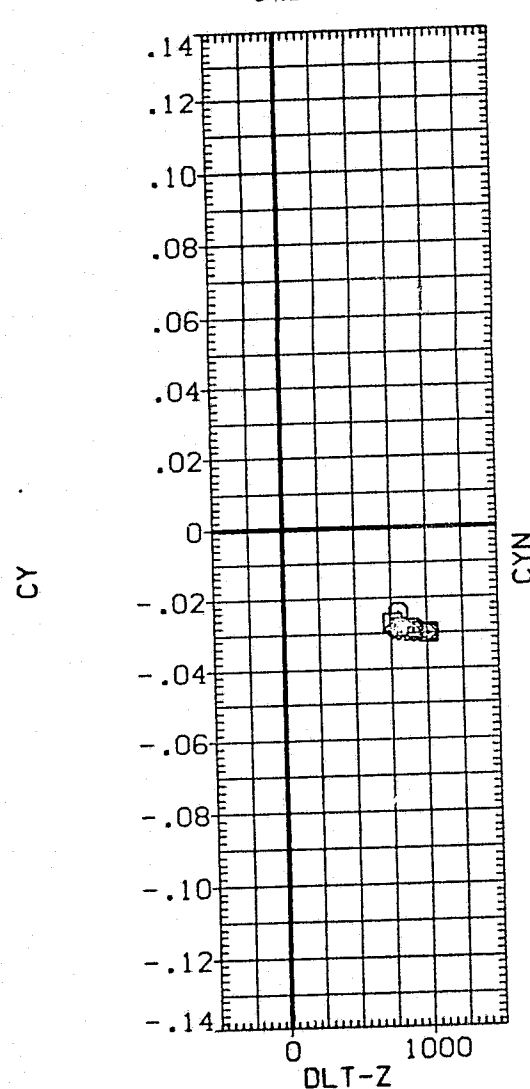


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR418)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.555	BETA	200.000	ALPHA
□	200.460	DLTBTA	.000	DLTALF
		AILRON	3.000	MACH
		GRID	.000	ELEVON
			6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

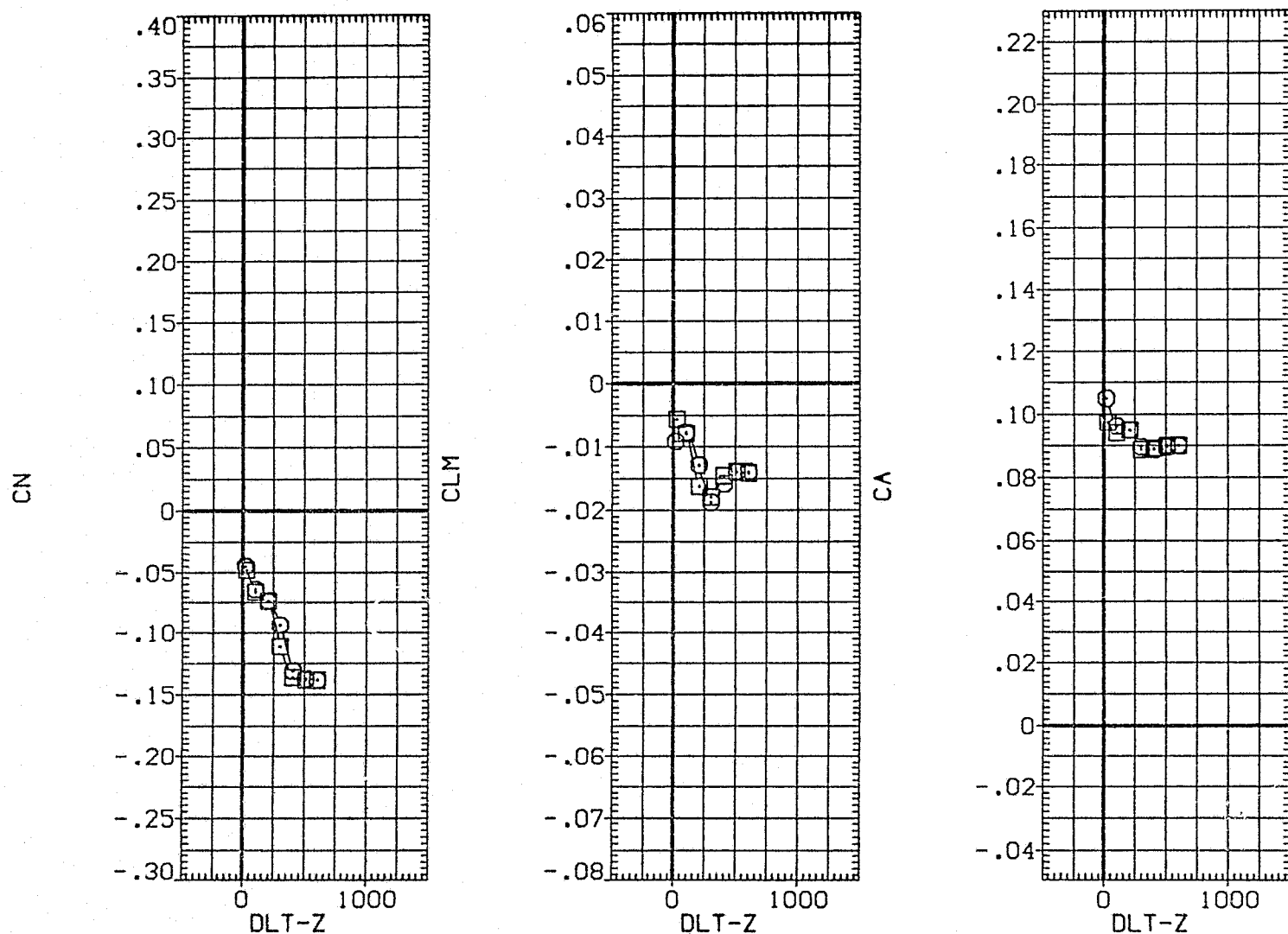


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR418)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.555	200.000	ALPHA	-5.000
□	200.460	BETA	DLTALF	.000
		DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

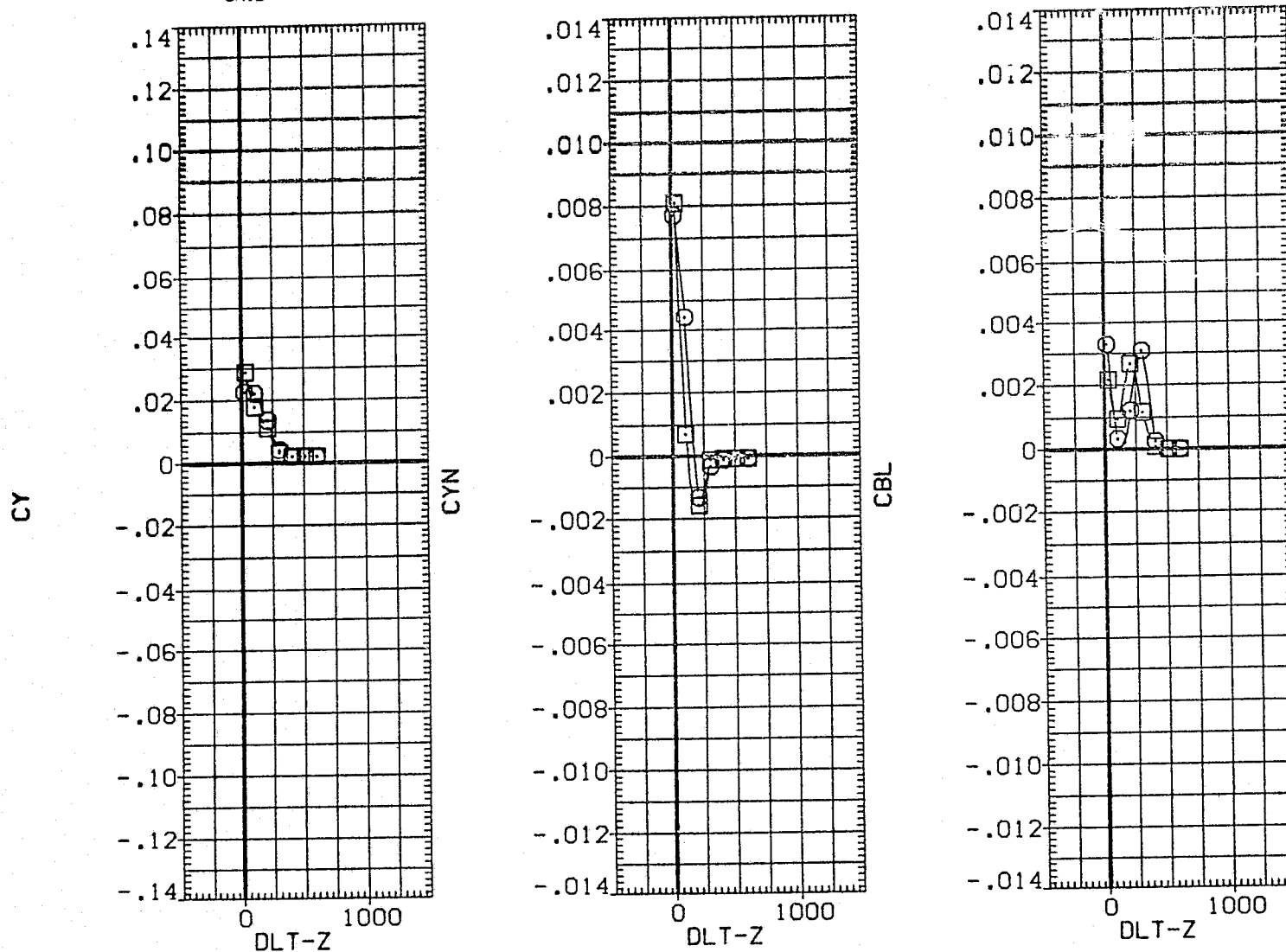


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR419)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.469		200.000	ALPHA -5.000
□	200.380	BETA	.000	DLTALF -10.000
◇	400.330	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

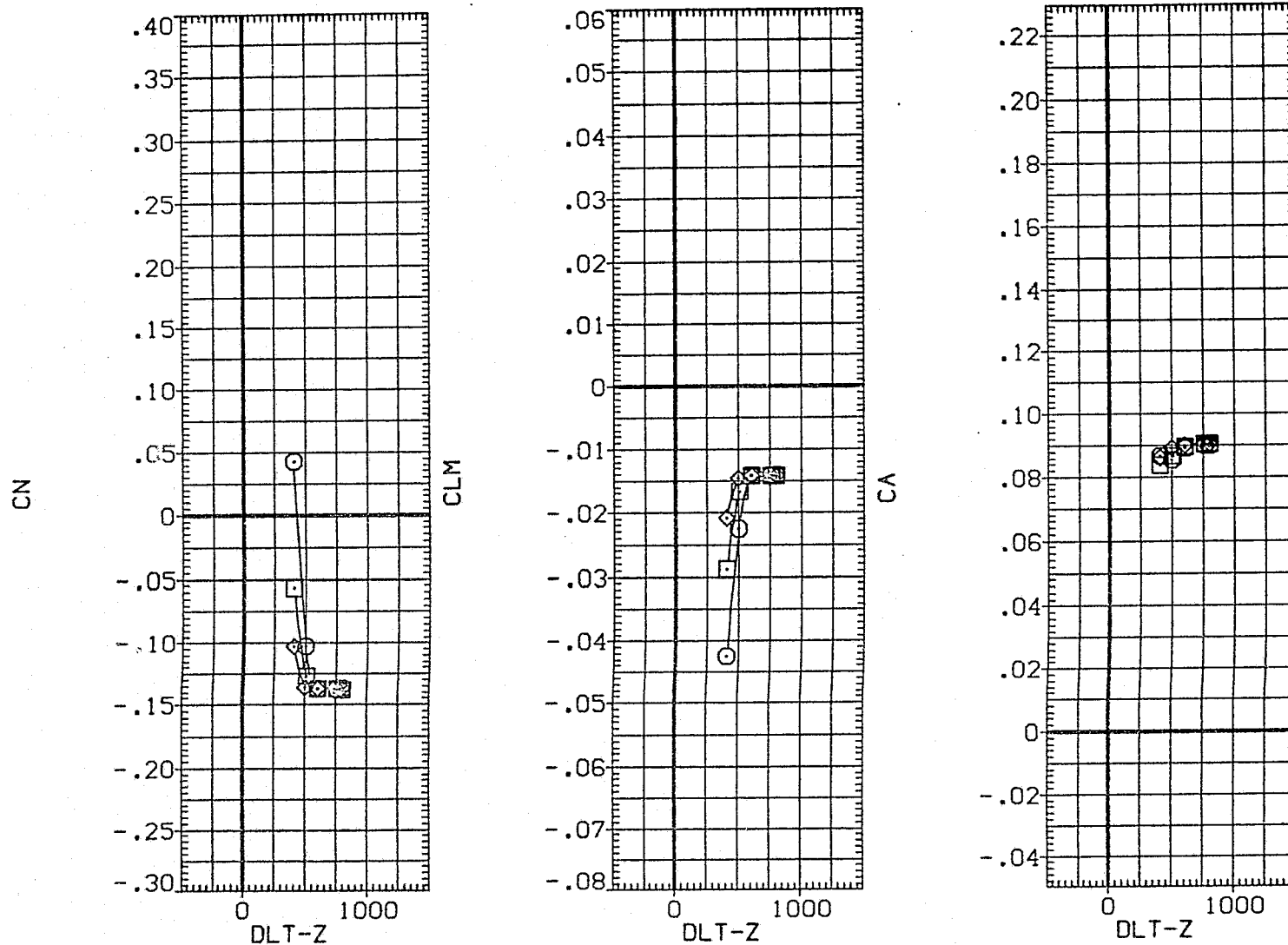


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR419)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.469	200.000	ALPHA	-5.000
□	200.380	BETA	DLTALF	-10.000
◇	400.330	DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		6.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

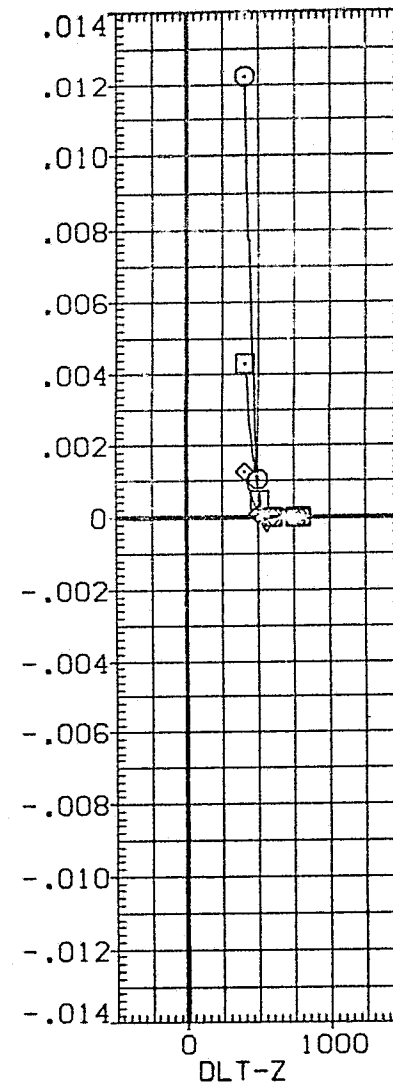
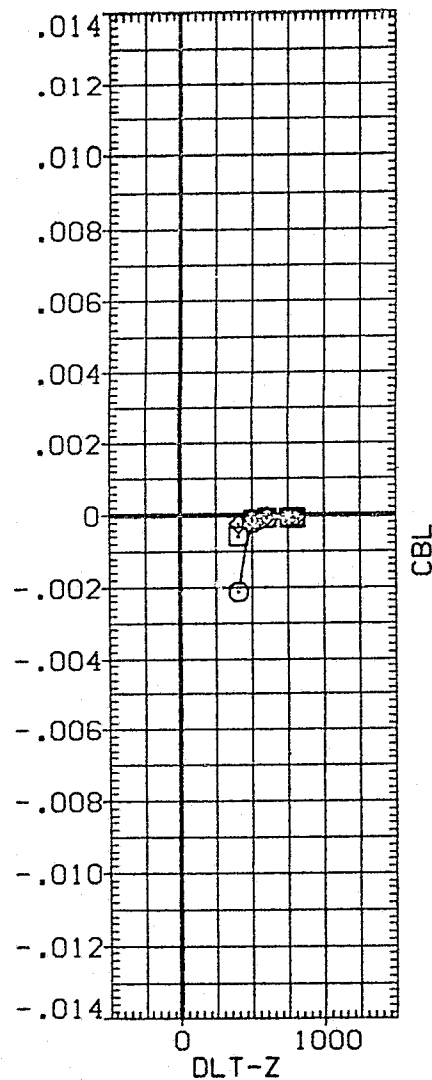
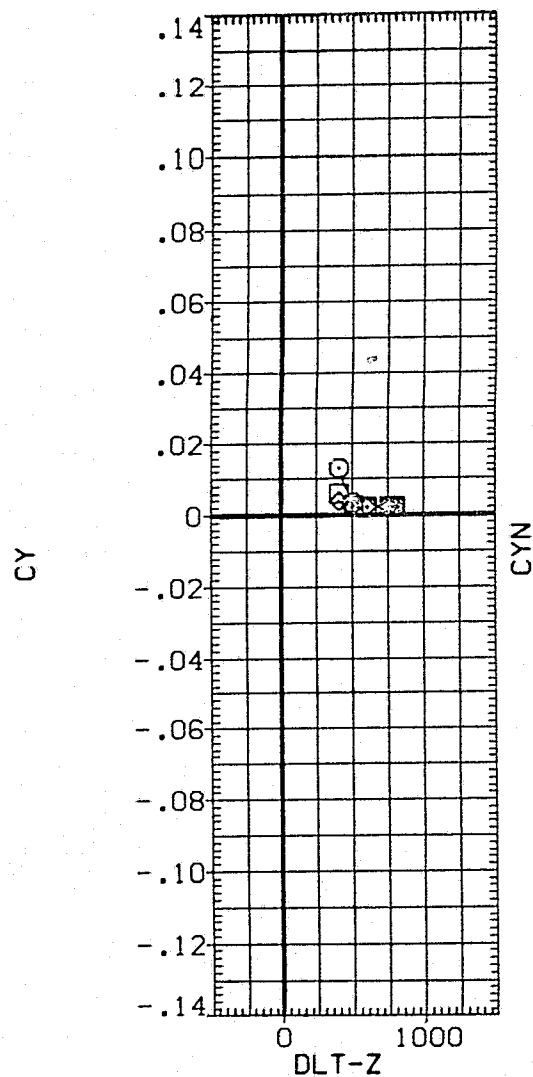


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR421)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.416	200.000	ALPHA	-5.000
□	200.470	.000	DLTALF	-20.000
◇	400.370	3.000	MACH	5.930
		.000	ELEVON	.000
		6.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

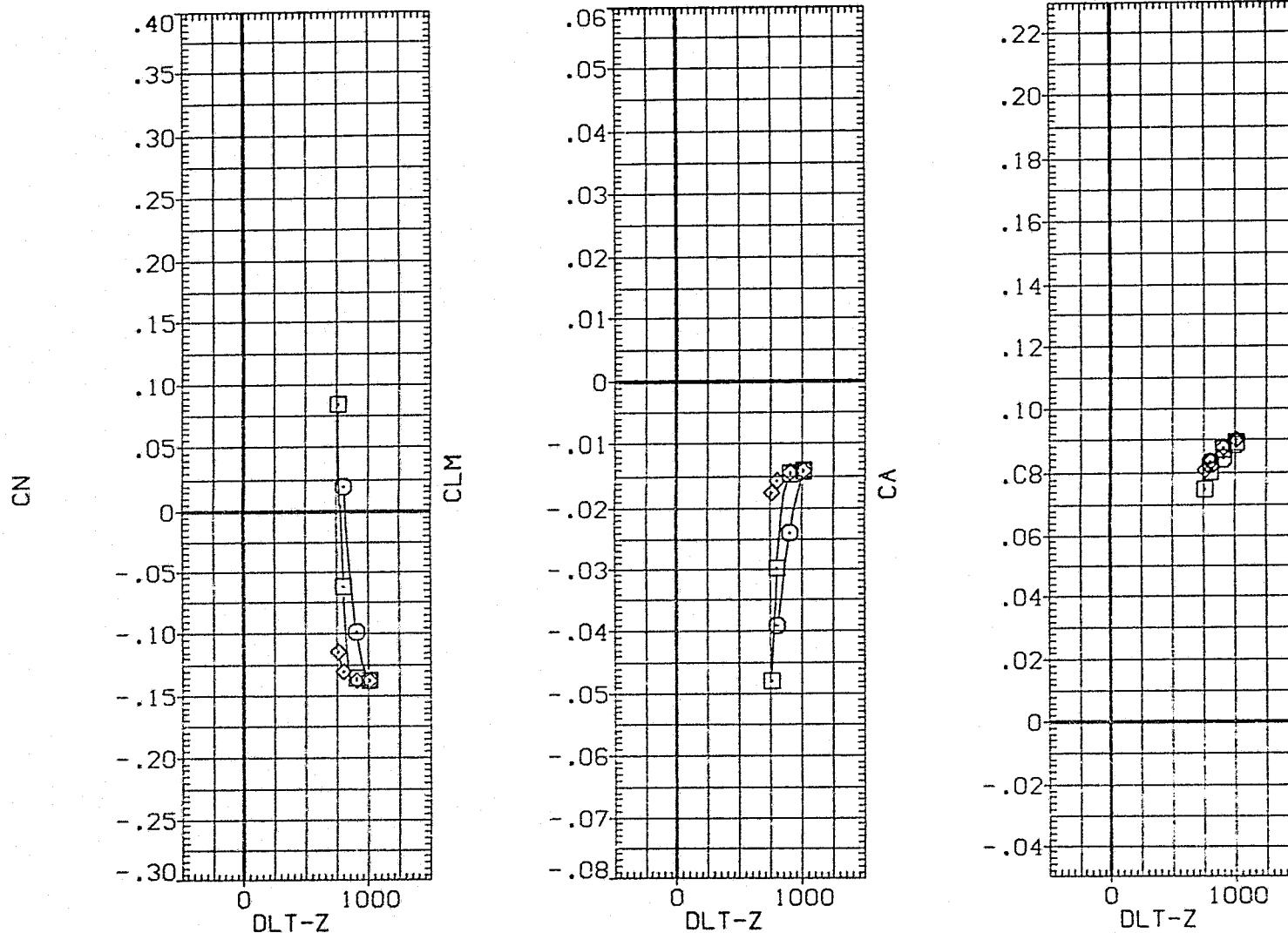


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR421)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.416	200.000	ALPHA	-5.000
□	200.470	BETA	.000	DLTALF -20.000
◇	400.370	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	6.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

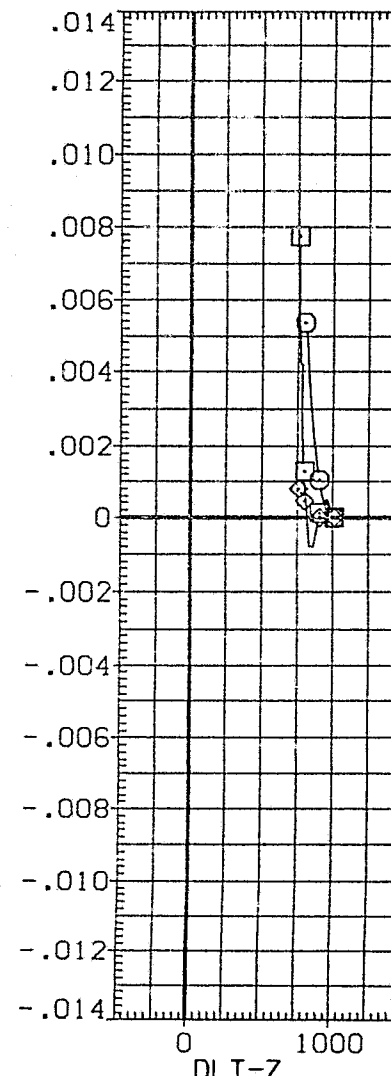
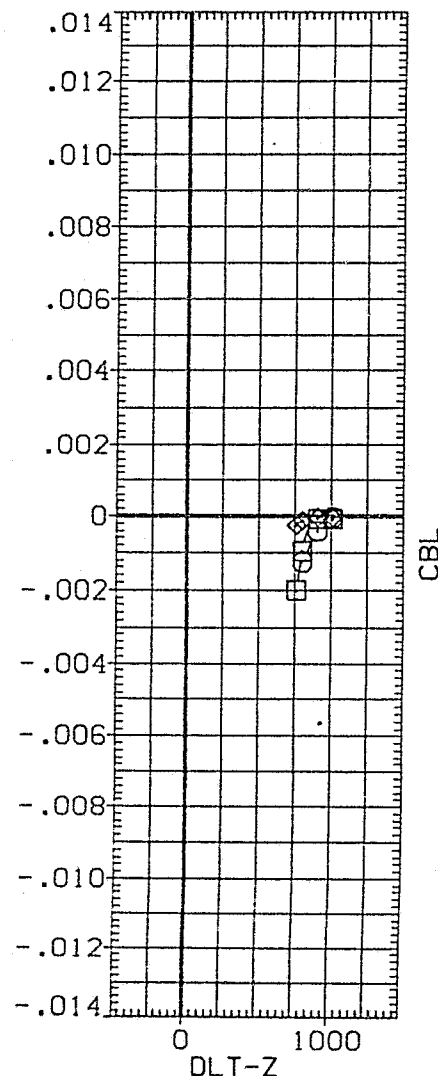
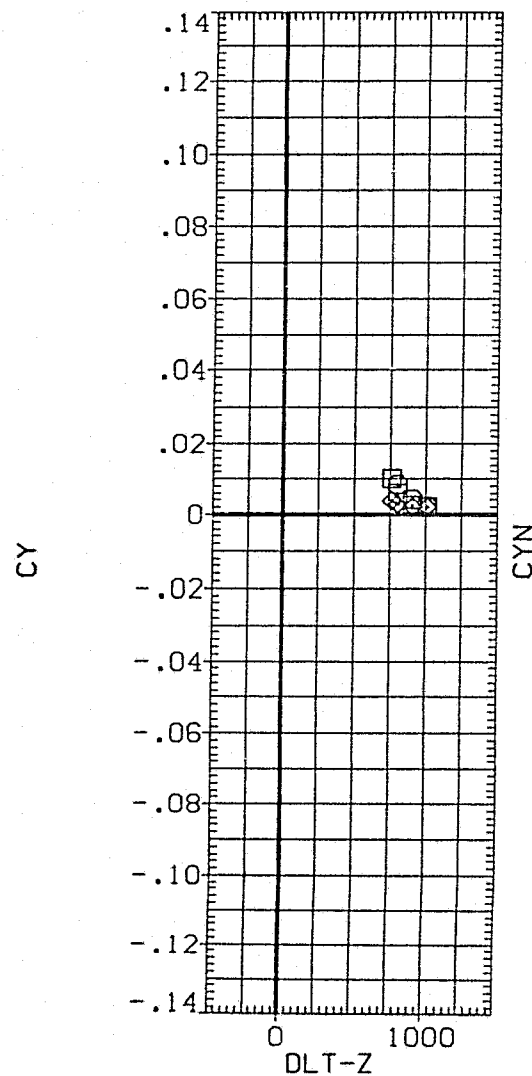


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR422)

SYMBOL		DLT-X	PARAMETRIC VALUES			
○		.596	DLT-Y	200.000	ALPHA	-5.000
□		200.600	BETA	3.000	DLTALF	.000
			DLTBTA	3.000	MACH	5.930
			AILRON	.000	ELEVON	.000
			GRID	7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

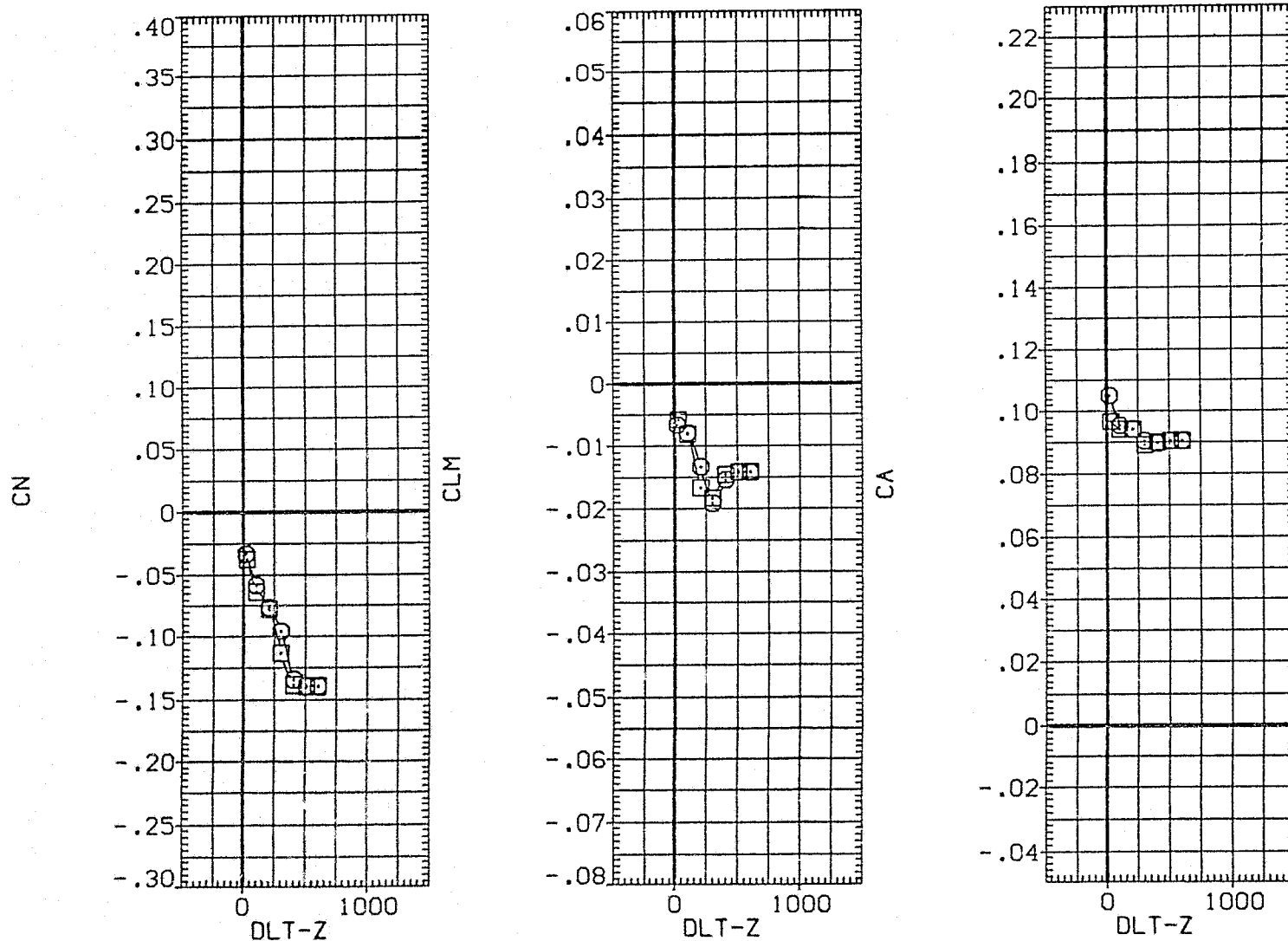


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR422)

SYMBOL		PARAMETRIC VALUES			
○	DLT-X	DLT-Y	200.000	ALPHA	-5.000
	.596	BETA	3.000	DLTALF	.000
□	200.600	DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	7.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

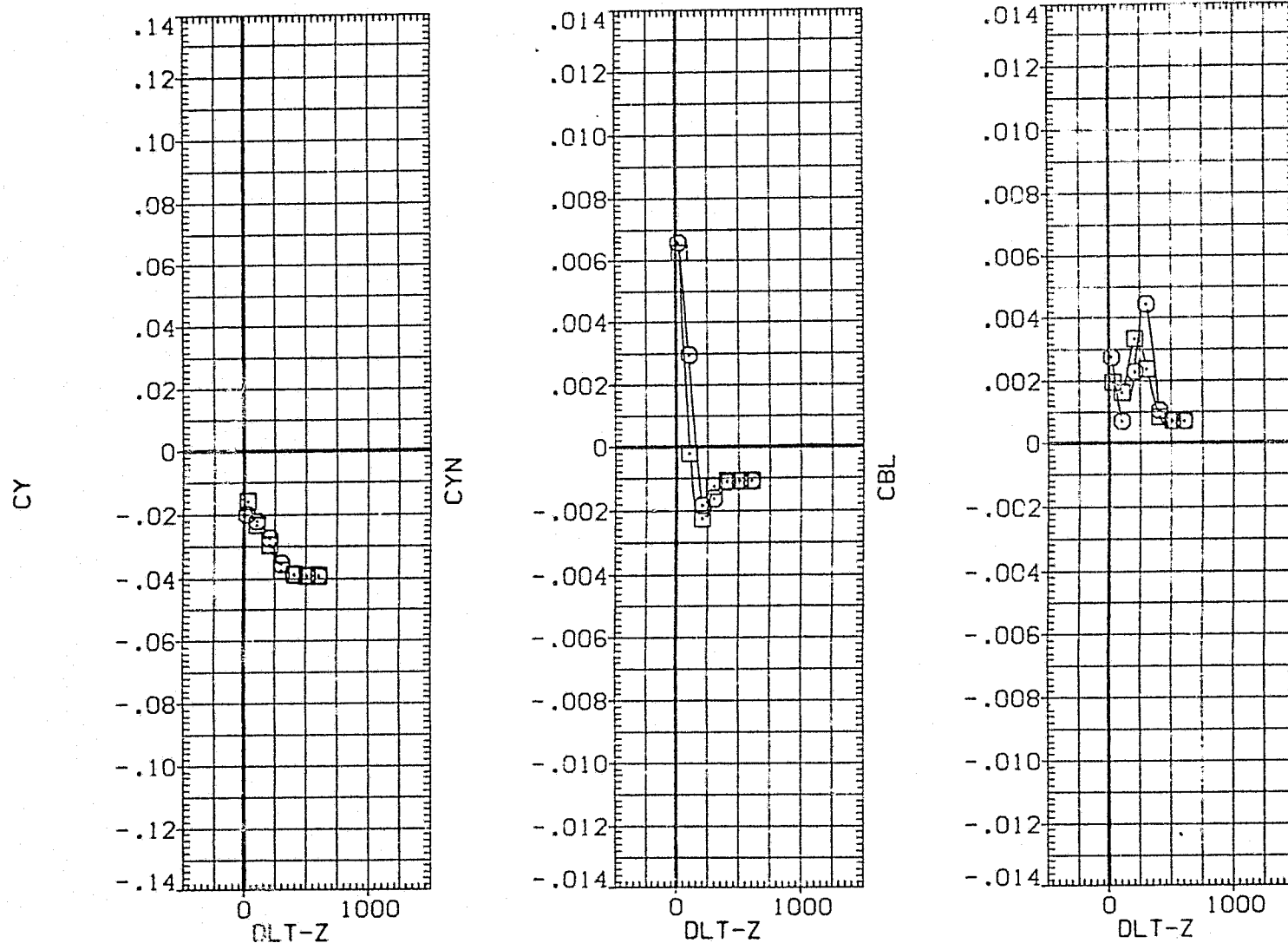


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y = 200, MACH = 5.93, ELEVON = 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR423)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.461	200.500	200.000	ALPHA -5.000
□	200.500	BETA 3.000	DLTALF -10.000	
◇	400.400	DLTBTA 3.000	MACH 5.930	
		AILRON .000	ELEVON .000	
		GRID 7.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

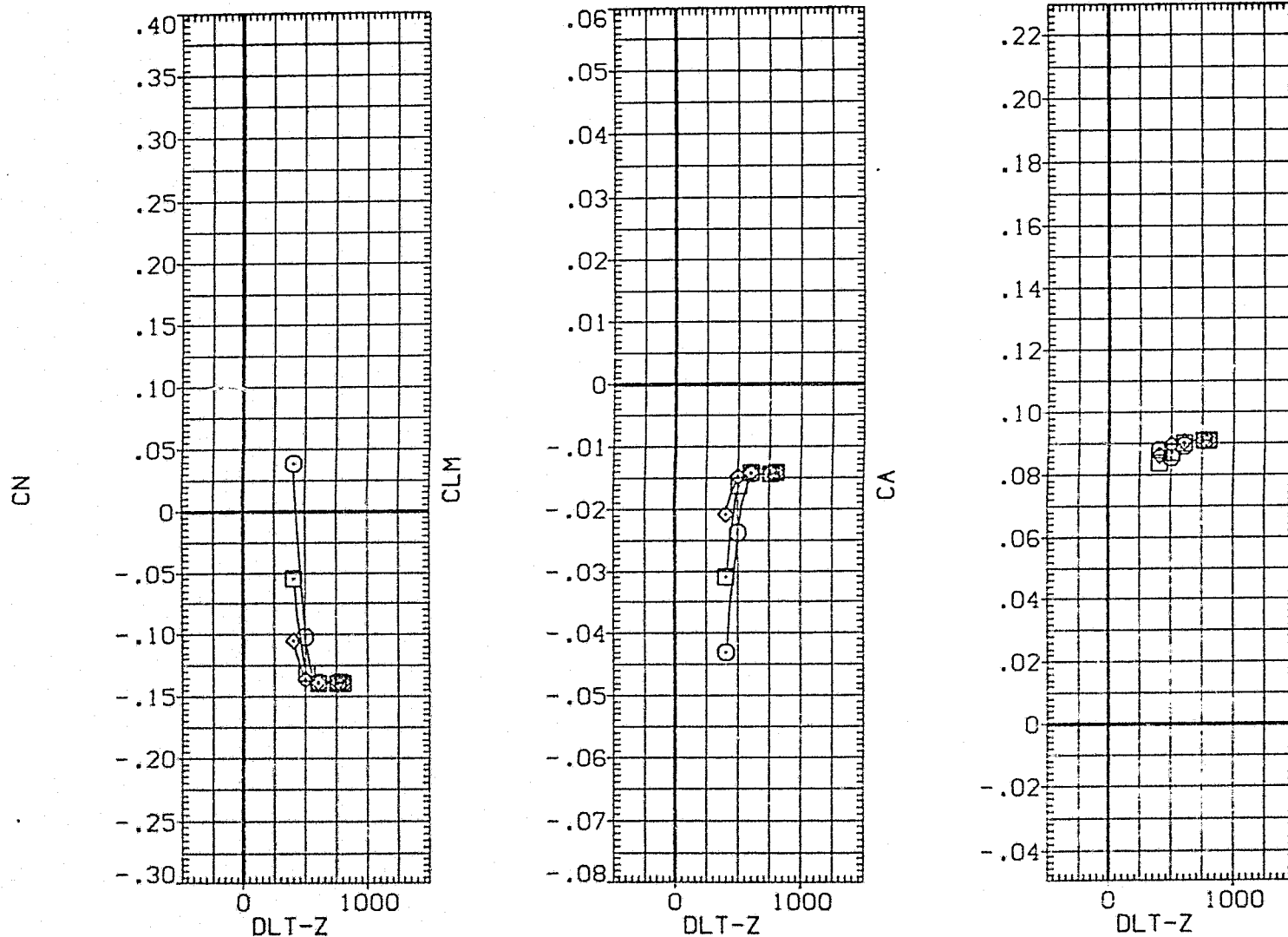


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR423)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.461		200.000	ALPHA -5.000
□	200.500	BETA	3.000	DLTALF -10.000
◇	400.400	DLTBTA	3.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	50. FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	275.0000	IN. Z0
SCALE	.0100	

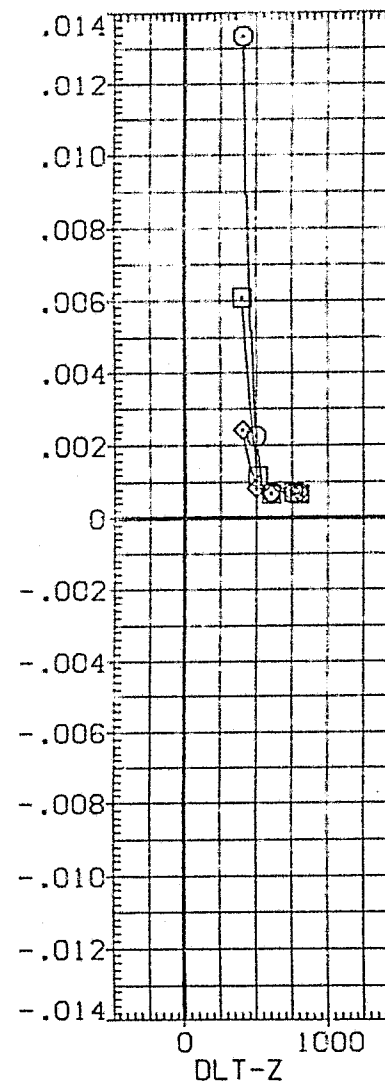
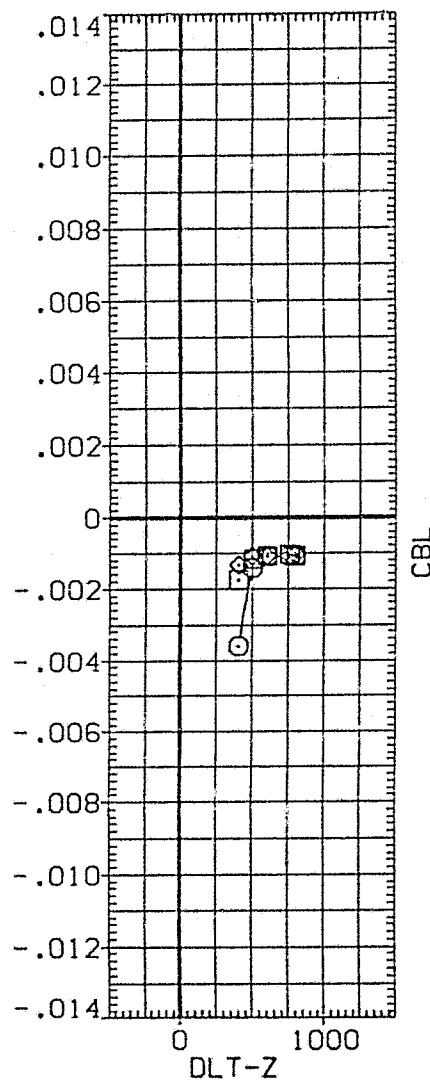
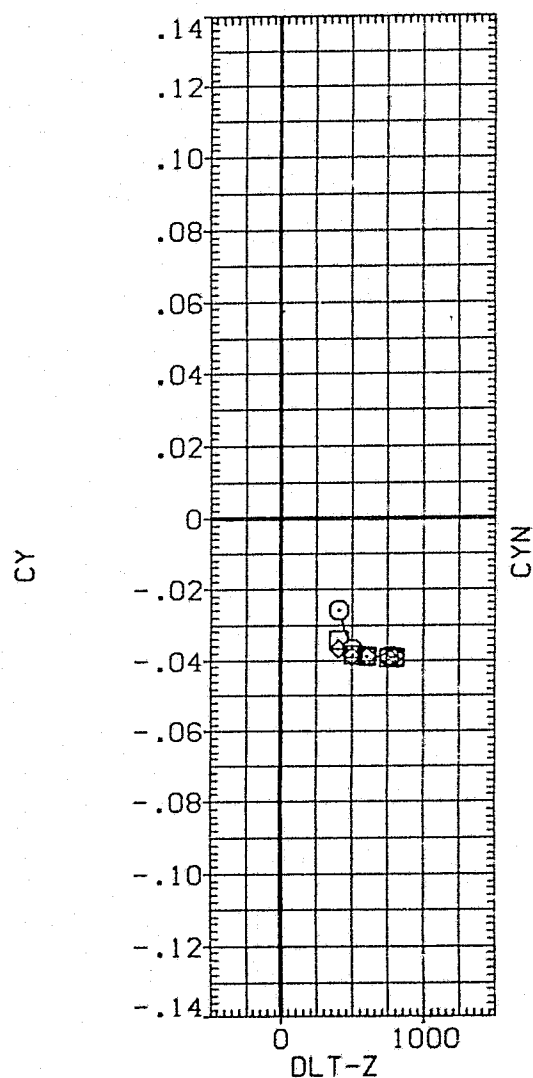


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR425)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.403		200.000	ALPHA -5.000
□	200.280	BETA	3.000	DLTALF -20.000
◇	400.430	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

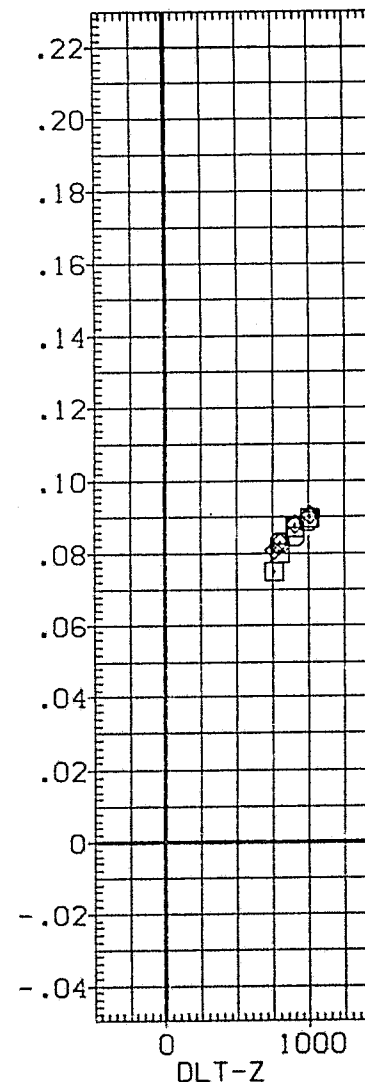
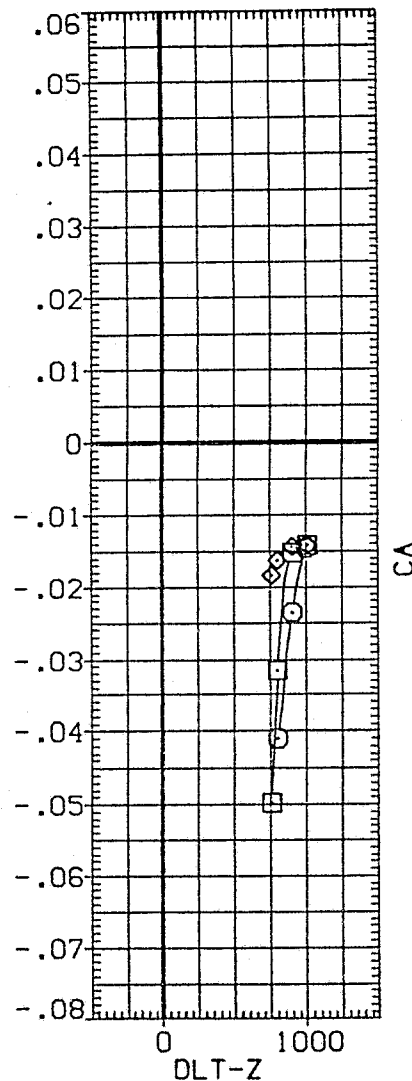
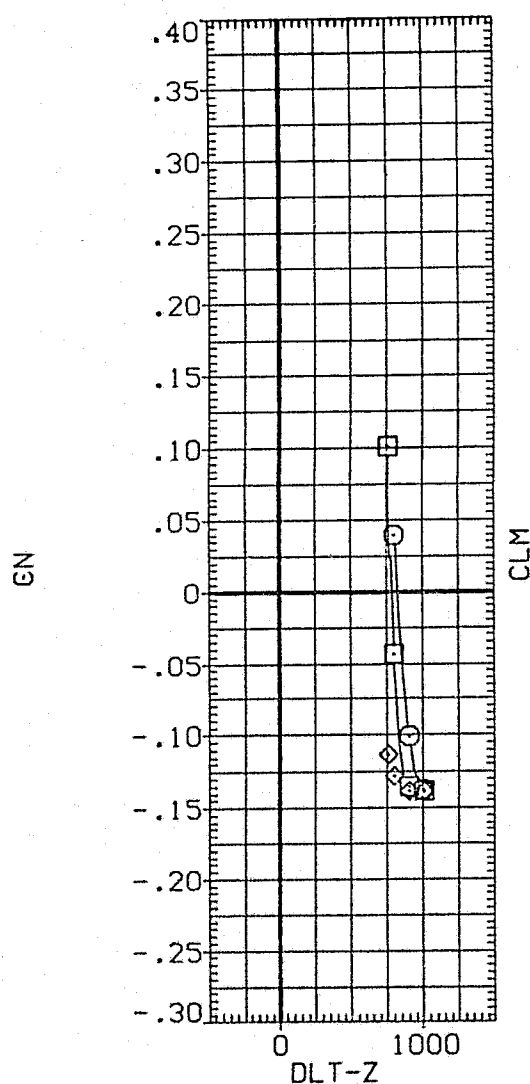


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR425)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.403		200.000	ALPHA -5.000
□	200.280	BETA	3.000	DLTALF -20.000
◇	400.430	DLTBTA	3.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	7.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

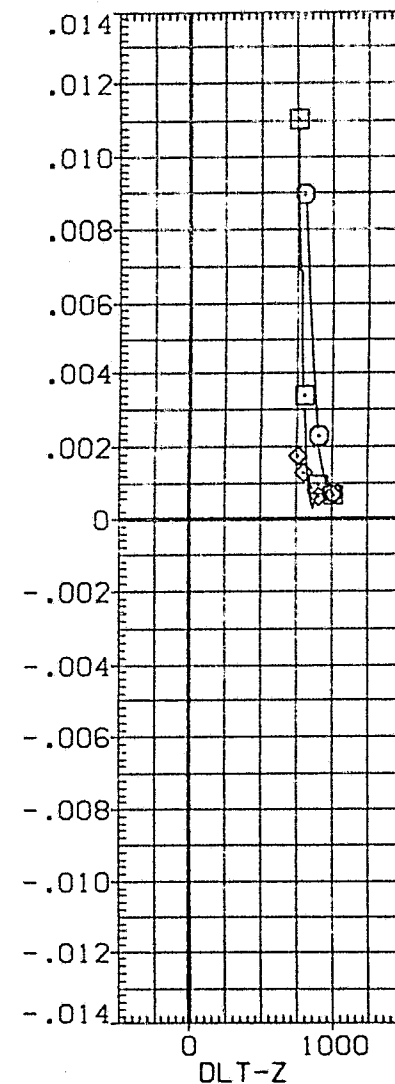
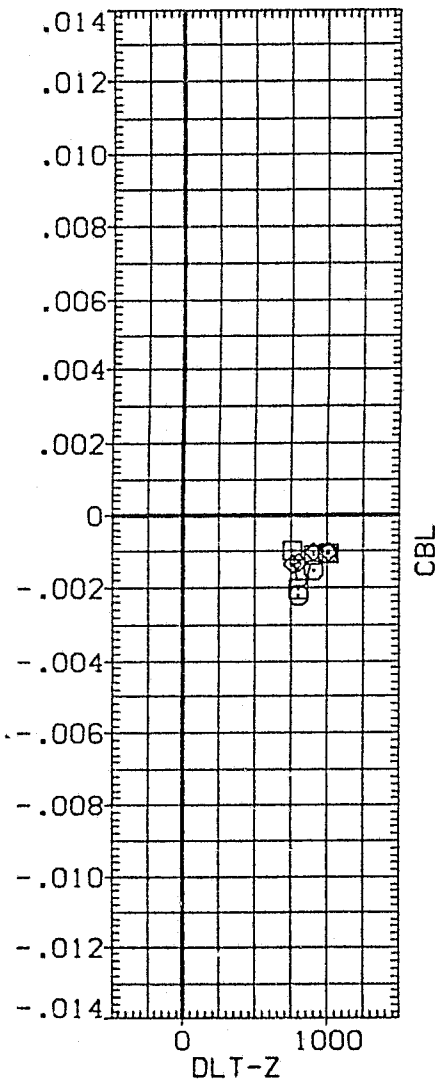
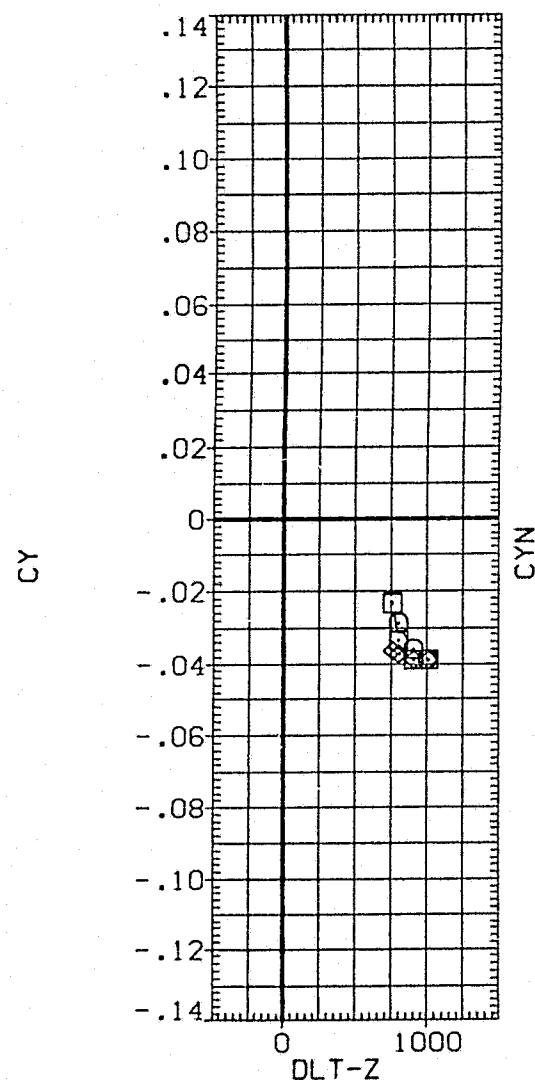


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y = 200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR430)

SYMBOL	DLT-X	PARAMETRIC VALUES	
○	.475	DLT-Y 200.000	ALPHA 10.000
□	200.500	BETA .000	DLTALF -10.000
◇	400.580	DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 23.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

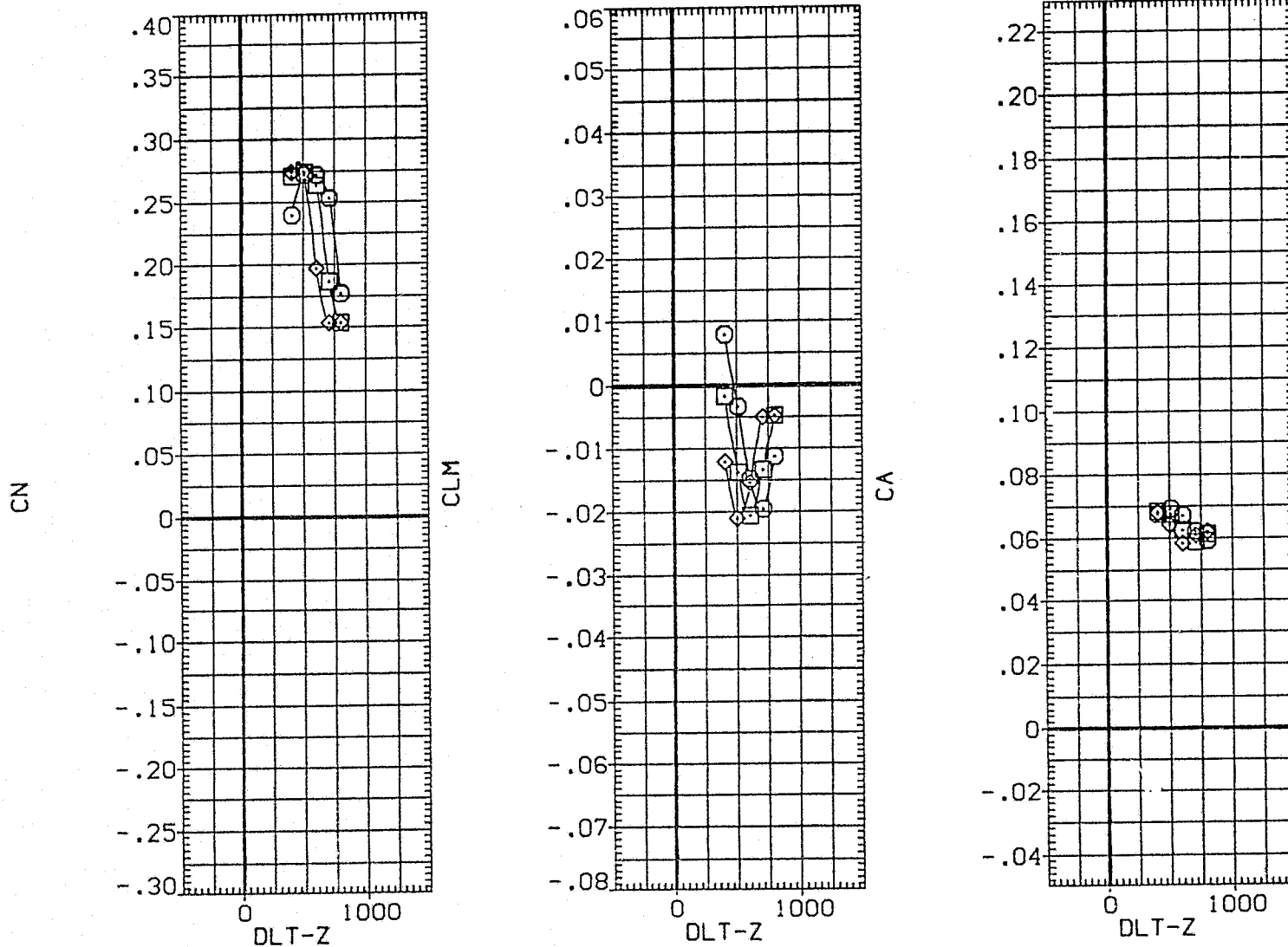


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR430)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.475	200.500	BETA	.000
□	200.500	DLTBT	3.000	MACH
◇	400.580	AILRON	.000	ELEVON
		GRID	23.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

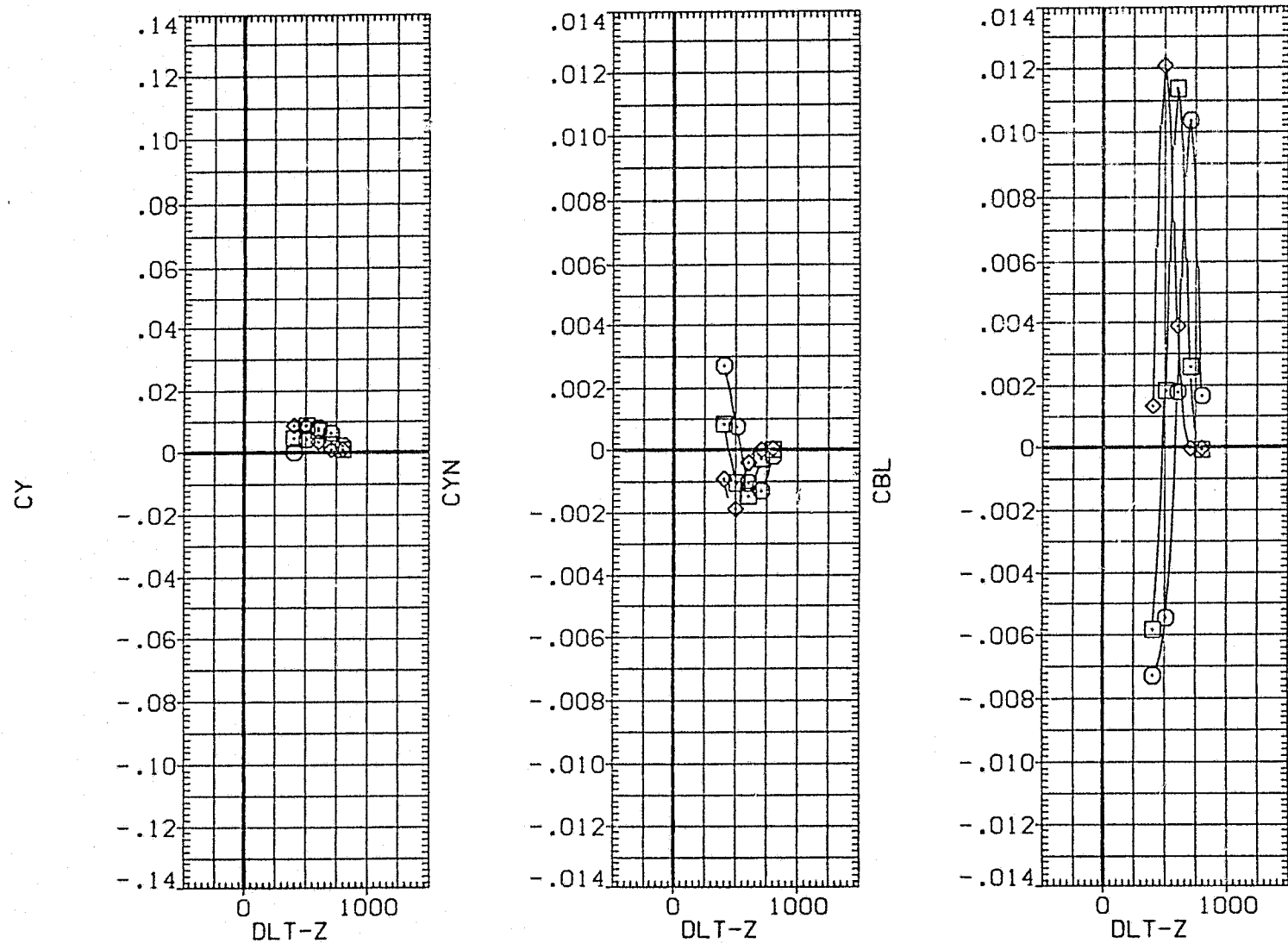


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR431)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.437	200.000	ALPHA	10.000
□	200.440	.000	DLTALF	-20.000
◇	400.530	3.000	MACH	5.930
		.000	ELEVON	.000
		23.000	GRID	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

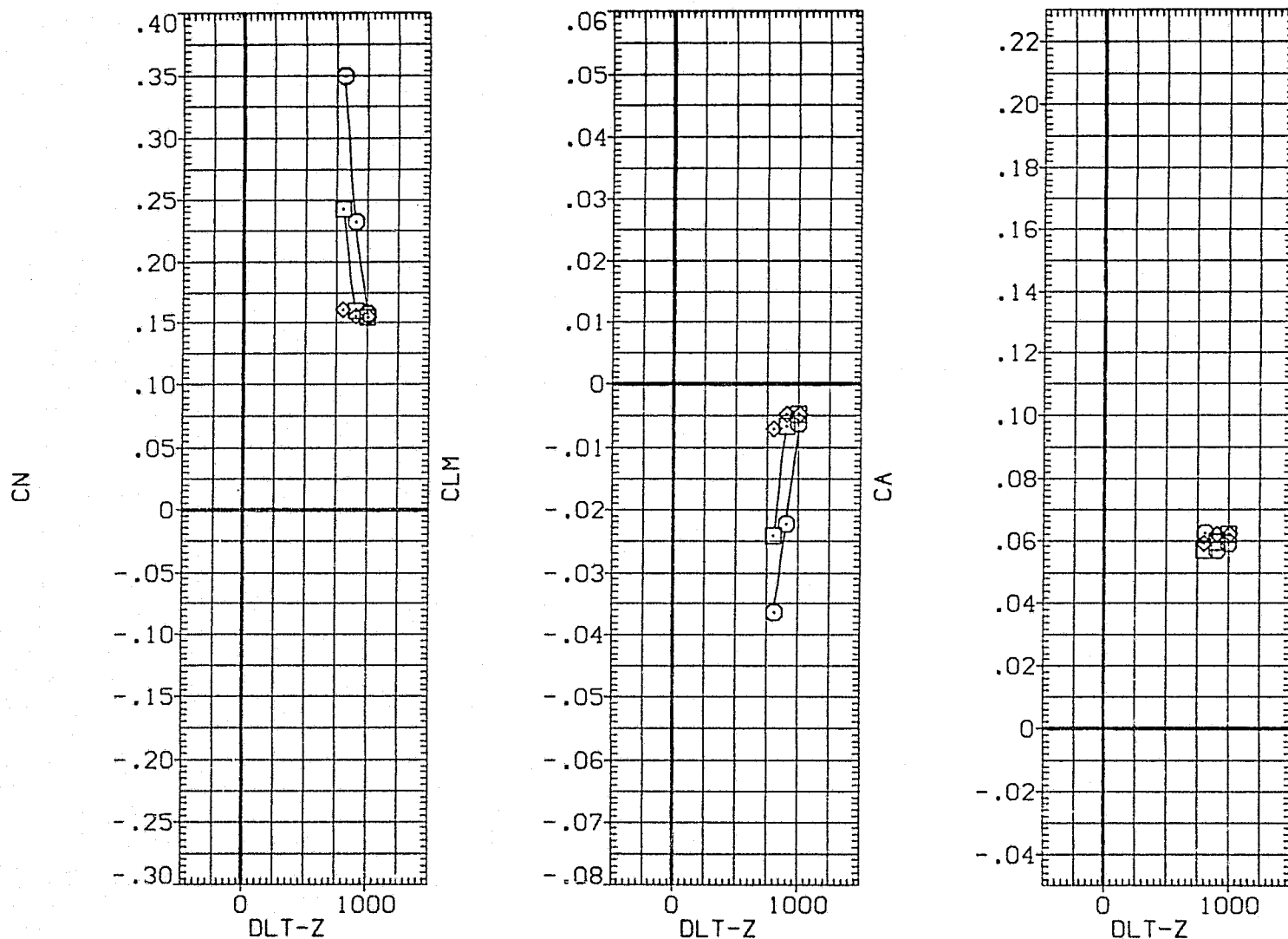


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR431)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	10.000
○	.437	200.000	DLTALF	-20.000	
□	200.440	BETA	.000	MACH	5.930
◇	400.530	DLTBTA	3.000	ELEVON	.000
		AILRON	.000		
		GRID	23.000		

REFERENCE INFORMATION		
SREF	2690.0000	SG.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

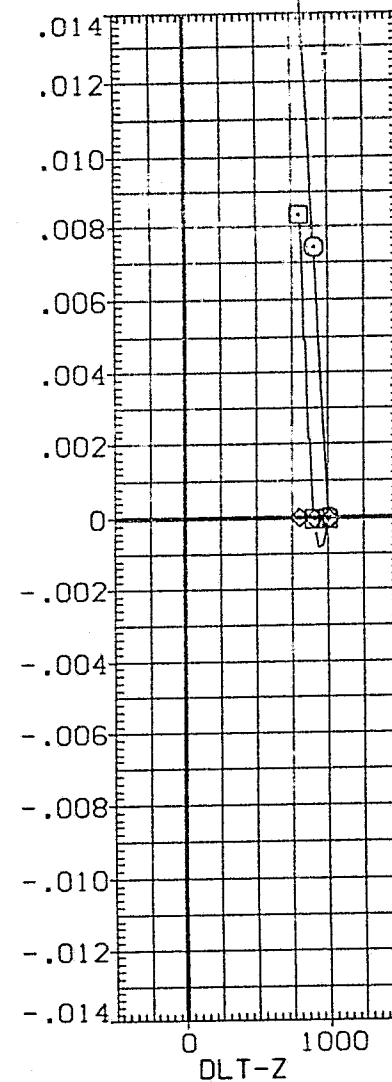
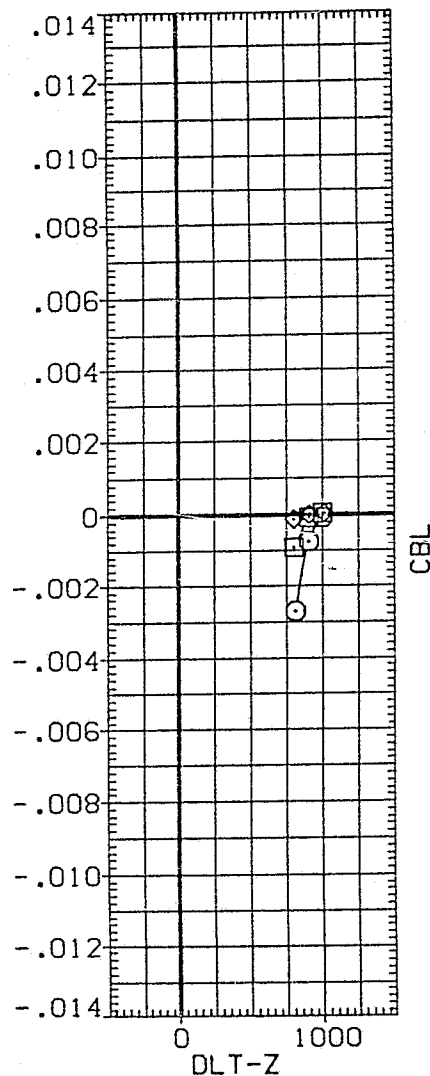
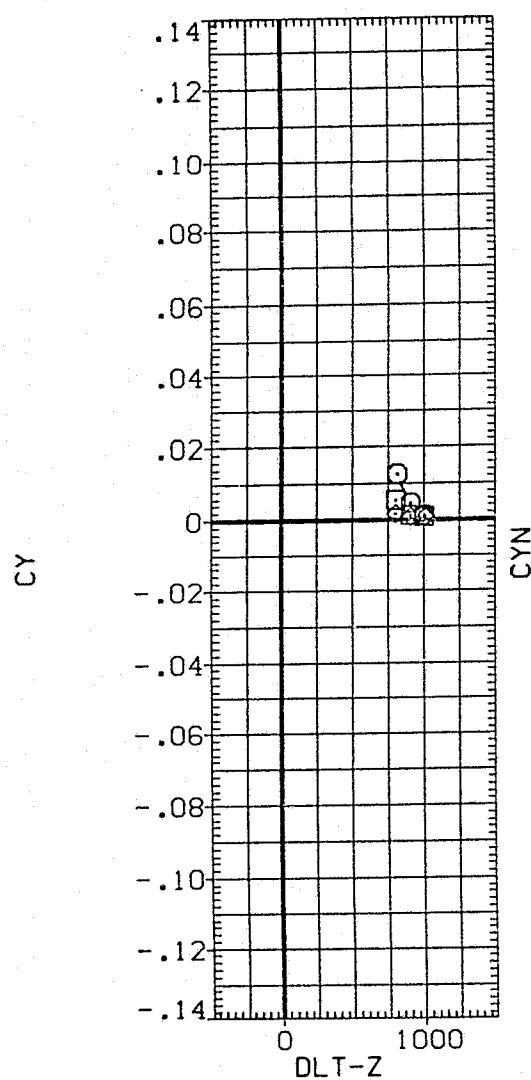


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR432)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.487	200.000	ALPHA	10.000
□	200.500	BETA	3.000	DLTALF -10.000
◇	400.640	DLTBTA	3.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	27.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

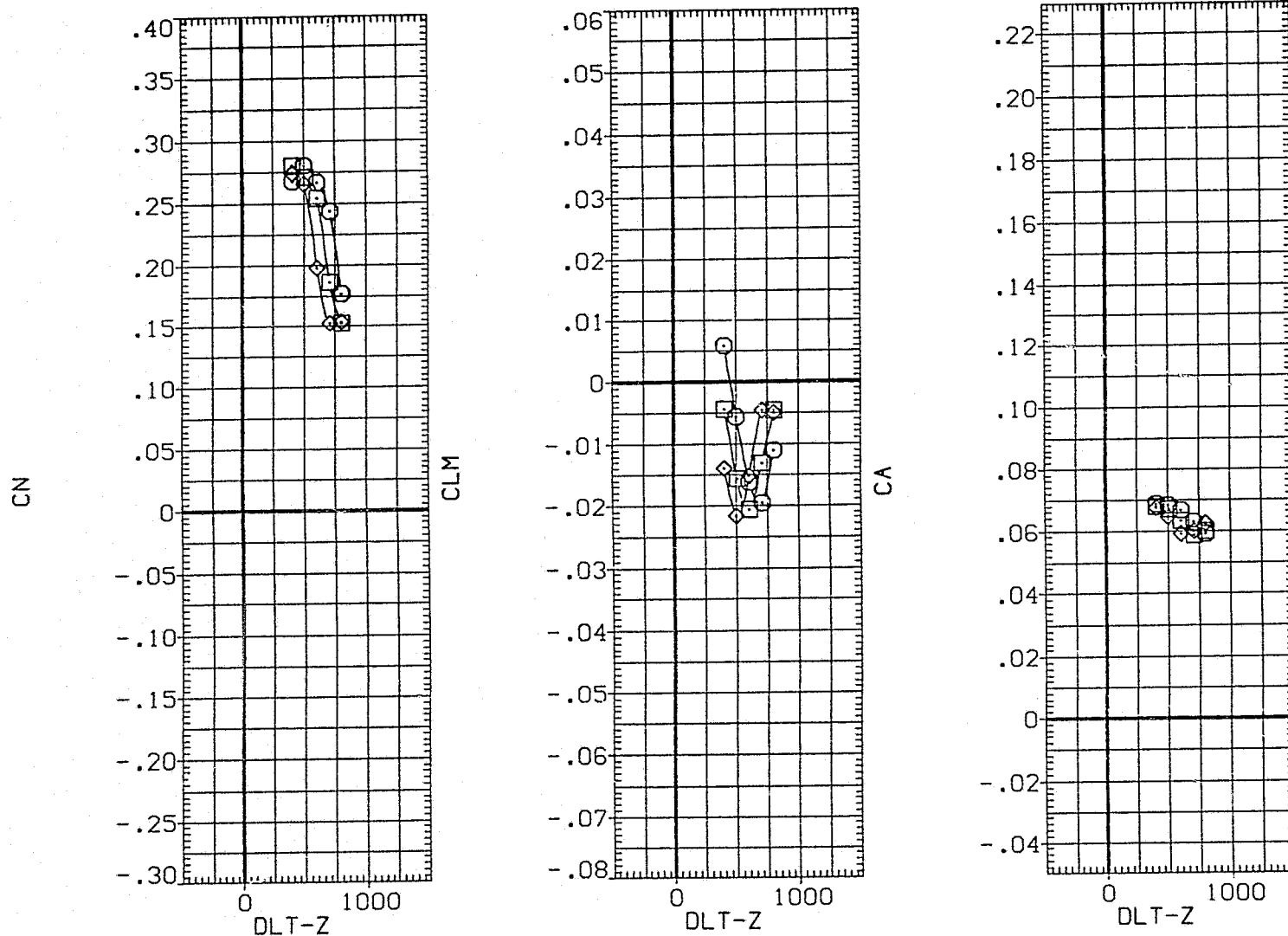


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR432)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.487	200.500	ALPHA	10.000
□	200.500	BETA	3.000	DLTALF -10.000
◇	400.640	DLTBT	3.000	MACH 5.930
		AIRLON	.000	ELEVON .000
		GRID	27.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

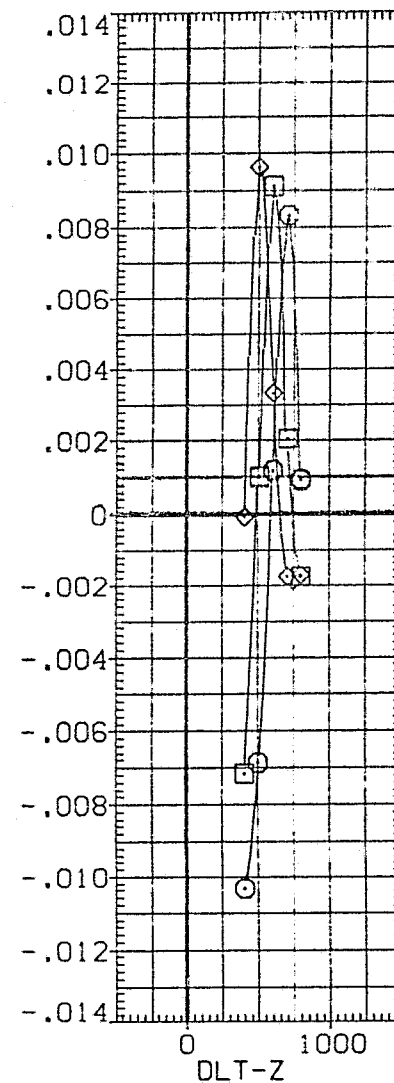
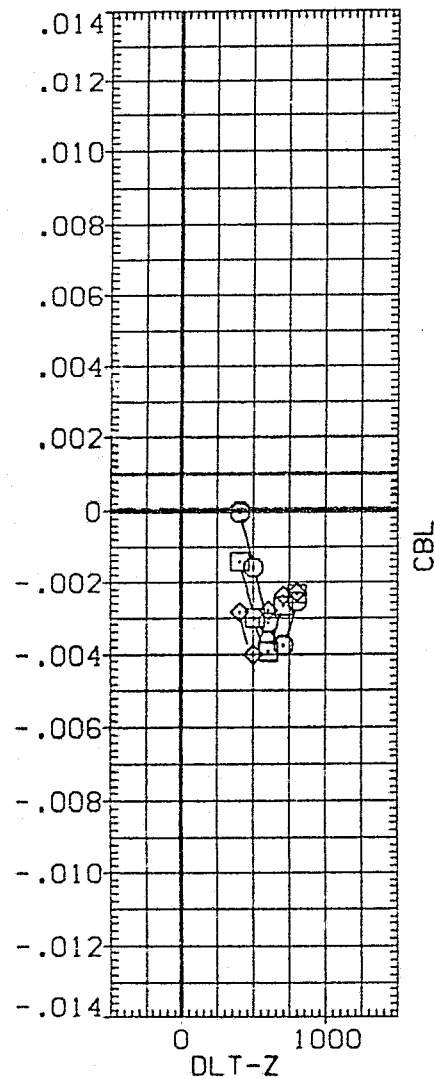
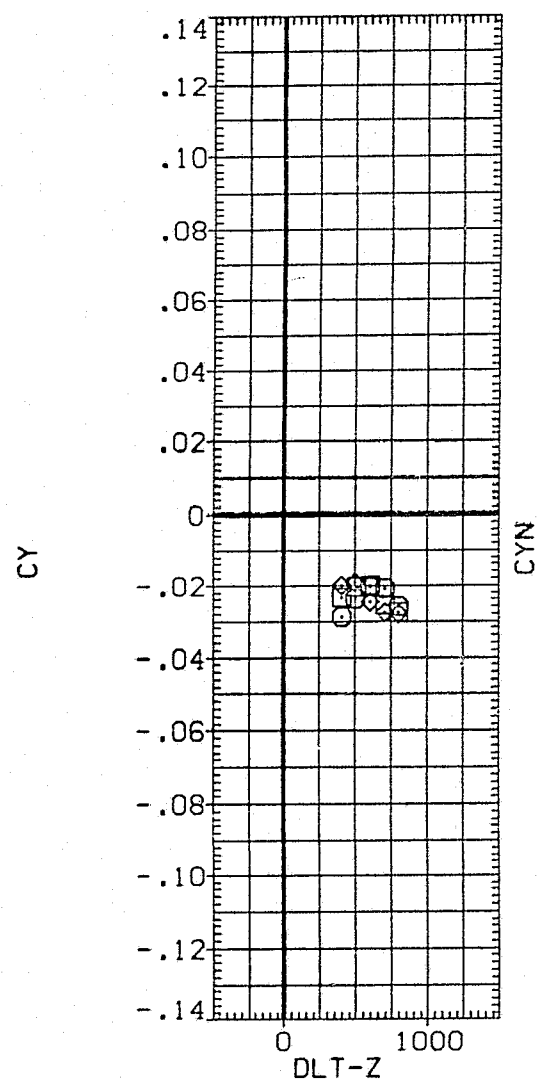


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR433)

SYMBOL	DLT-X		PARAMETRIC VALUES			
	DLT-X	DLT-Y	DLT-Y	ALPHA	DLTALF	ALPHA
○	.497	200.510	200.000	10.000	-20.000	10.000
□	200.510	400.640	3.000	MACH	5.930	5.930
◇	400.640		3.000	ELEVON	.000	.000
			.000			
			27.000			

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

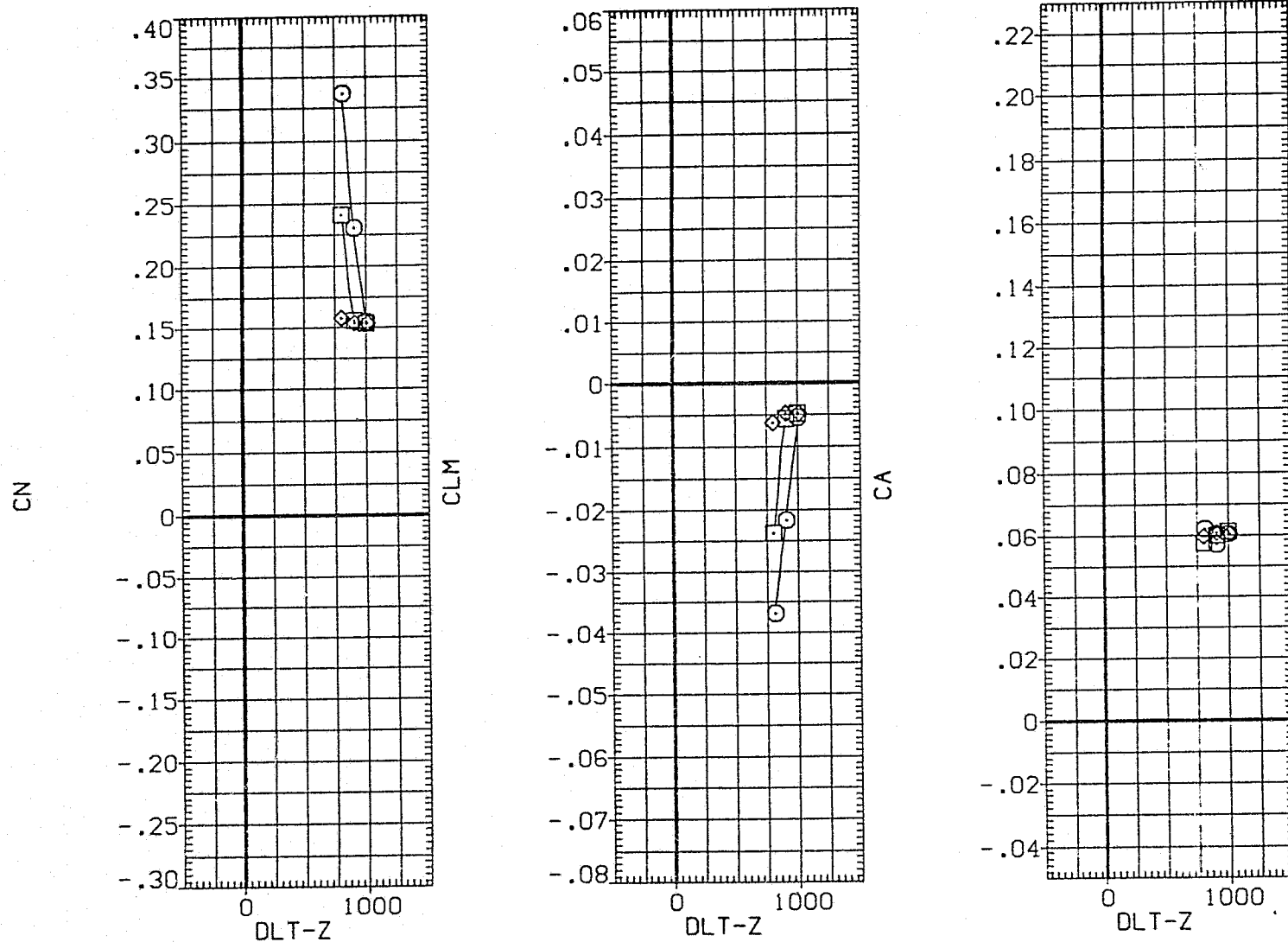


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR433)

SYMBOL
○
□
◇

DLT-X
.497
200.510
400.640

DLT-Y
200.000
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
200.000
3.000
3.000
.000
27.000

ALPHA
10.000
DLTALF
-20.000
MACH
5.930
ELEVON
.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

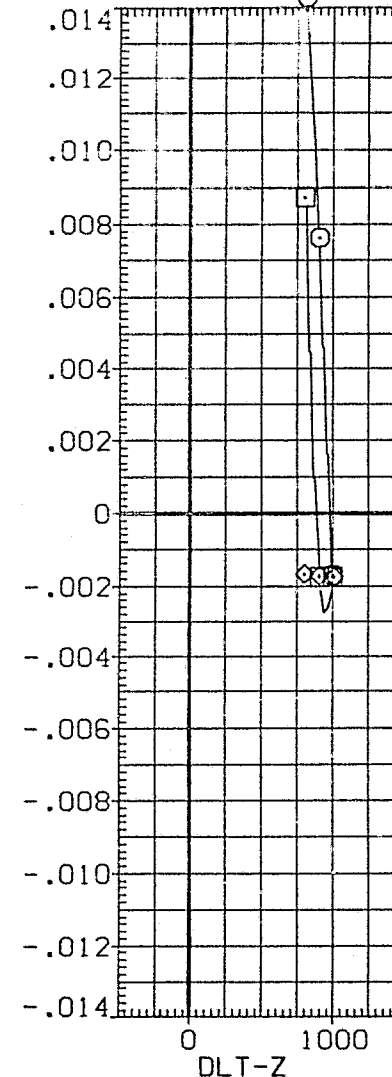
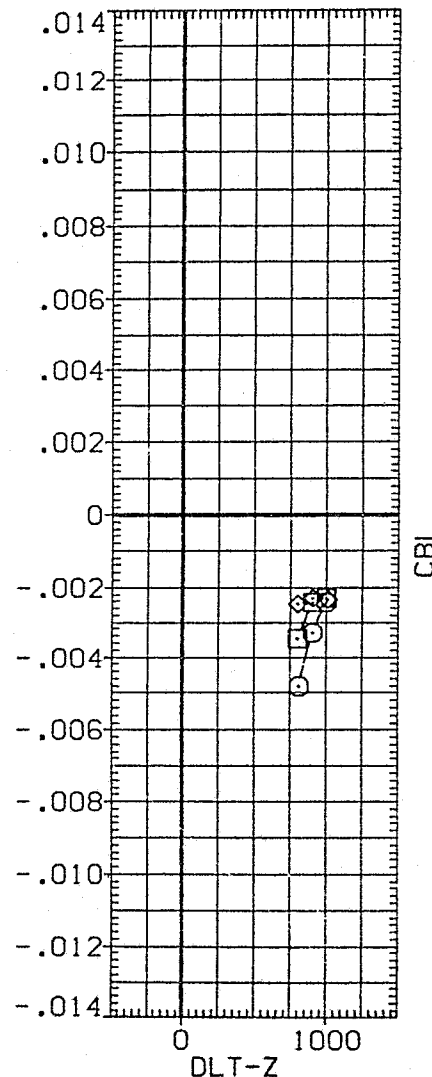
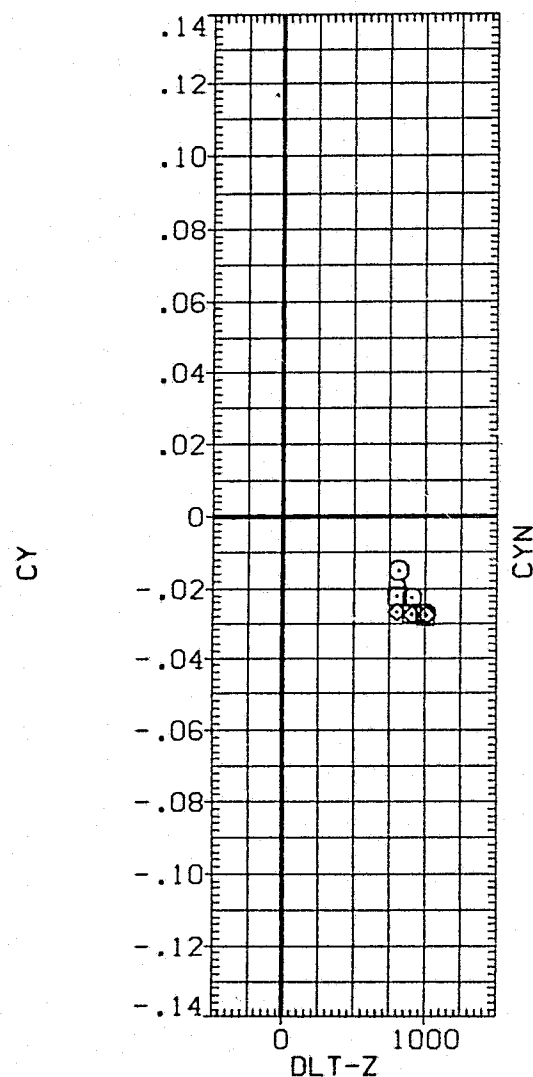


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y = 200, MACH = 5.93, ELEVON = 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR428)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.443	200.000	ALPHA	-10.000
□	200.550	.000	DLTALF	.000
		3.000	MACH	5.930
		.000	ELEVON	.000
		9.000		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0100	

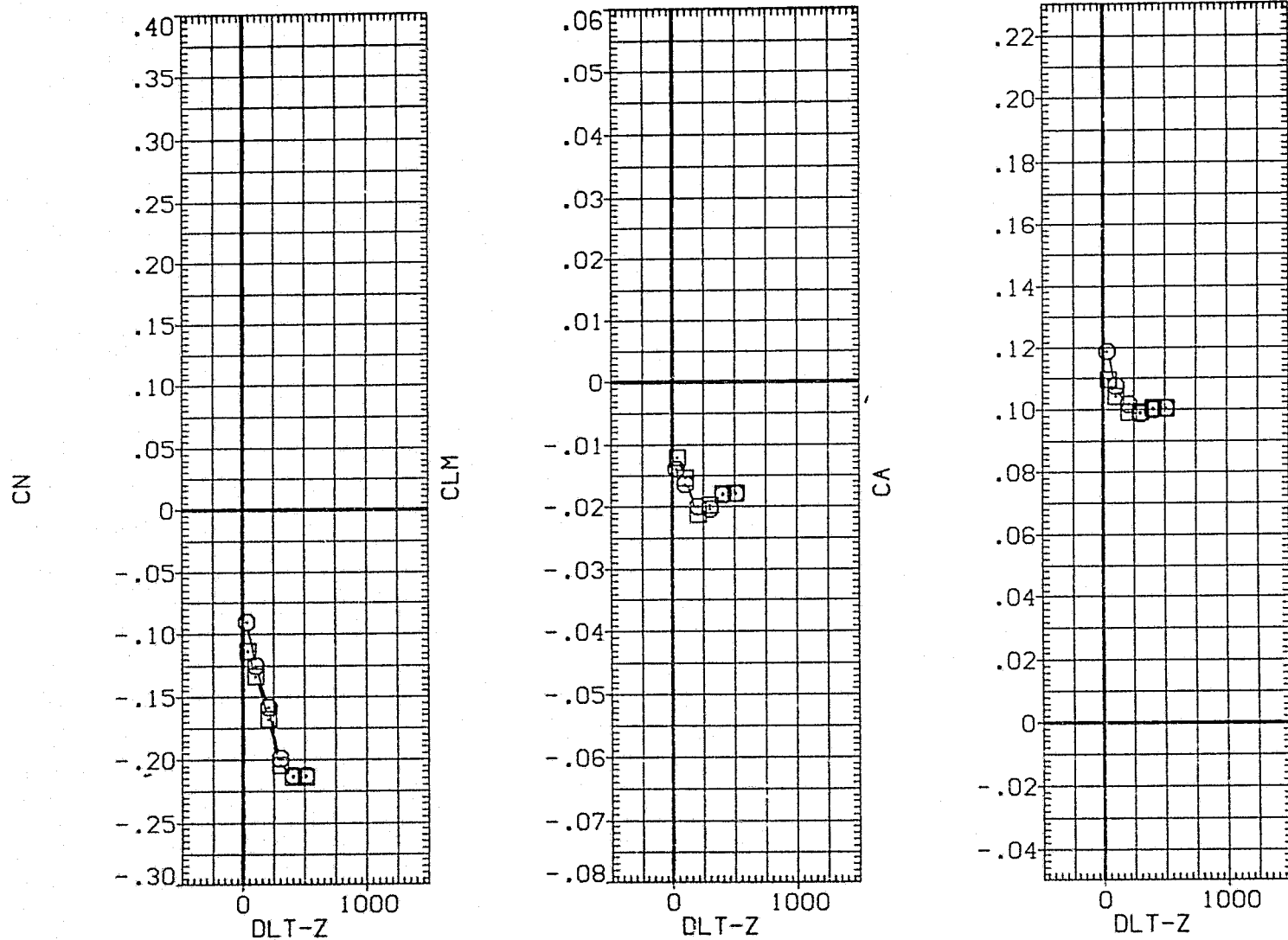


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR428)

SYMBOL ○ □	DLT-X .443	DLT-Y 200.550	PARAMETRIC VALUES		
			200.000	ALPHA	-10.000
	BETA	.000	DLTALF	.000	
	DLTBTA	3.000	MACH	5.930	
	AILRON	.000	ELEVON	.000	
	GRID	9.000			

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

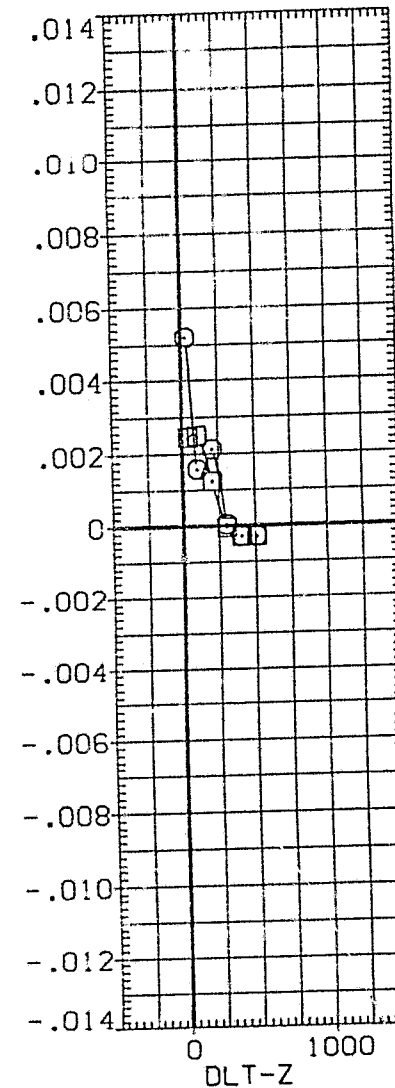
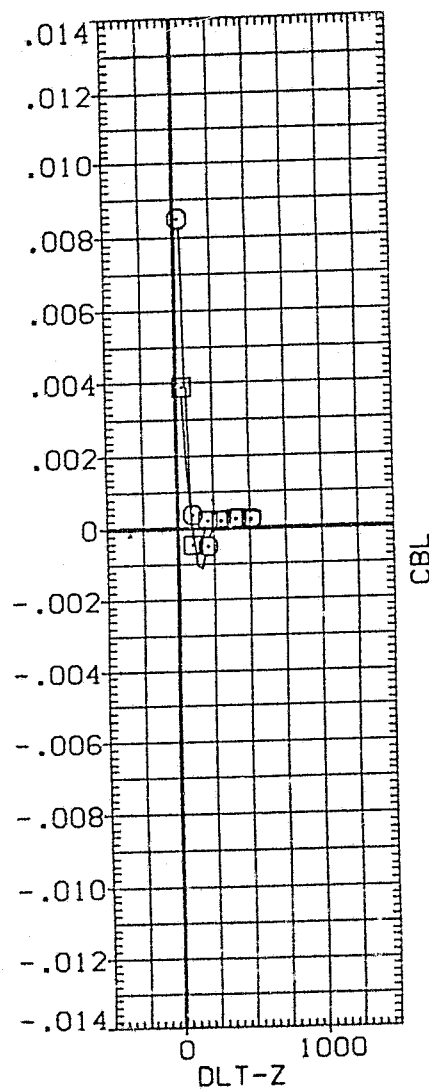
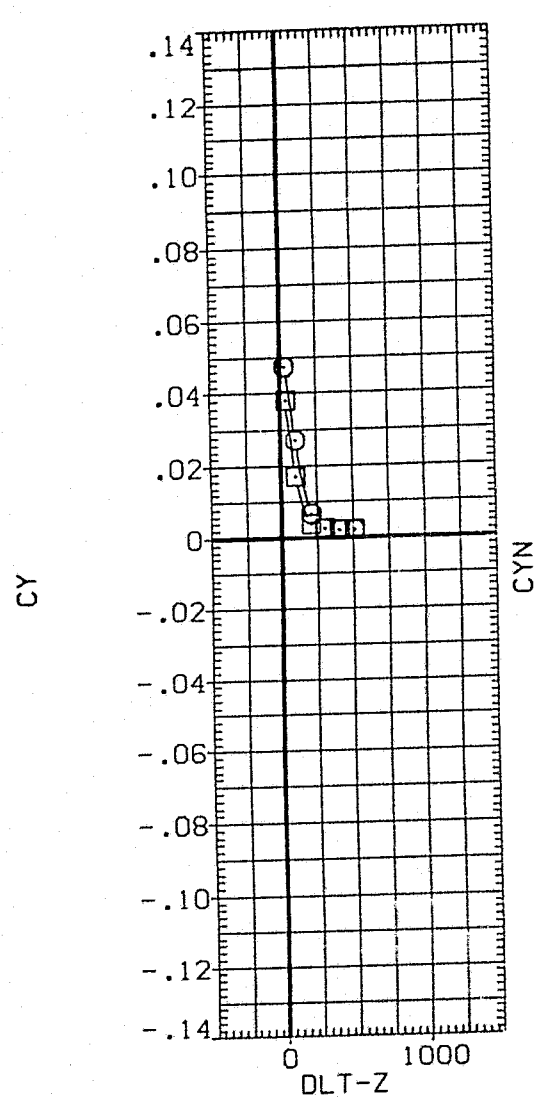


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR429)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.306	200.000	ALPHA	-10.000
□	200.430	BETA	DLTALF	-10.000
◇	400.430	DLTBTA	MACH	5.930
		AIRLON	ELEVON	.000
		GRID		9.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	0.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

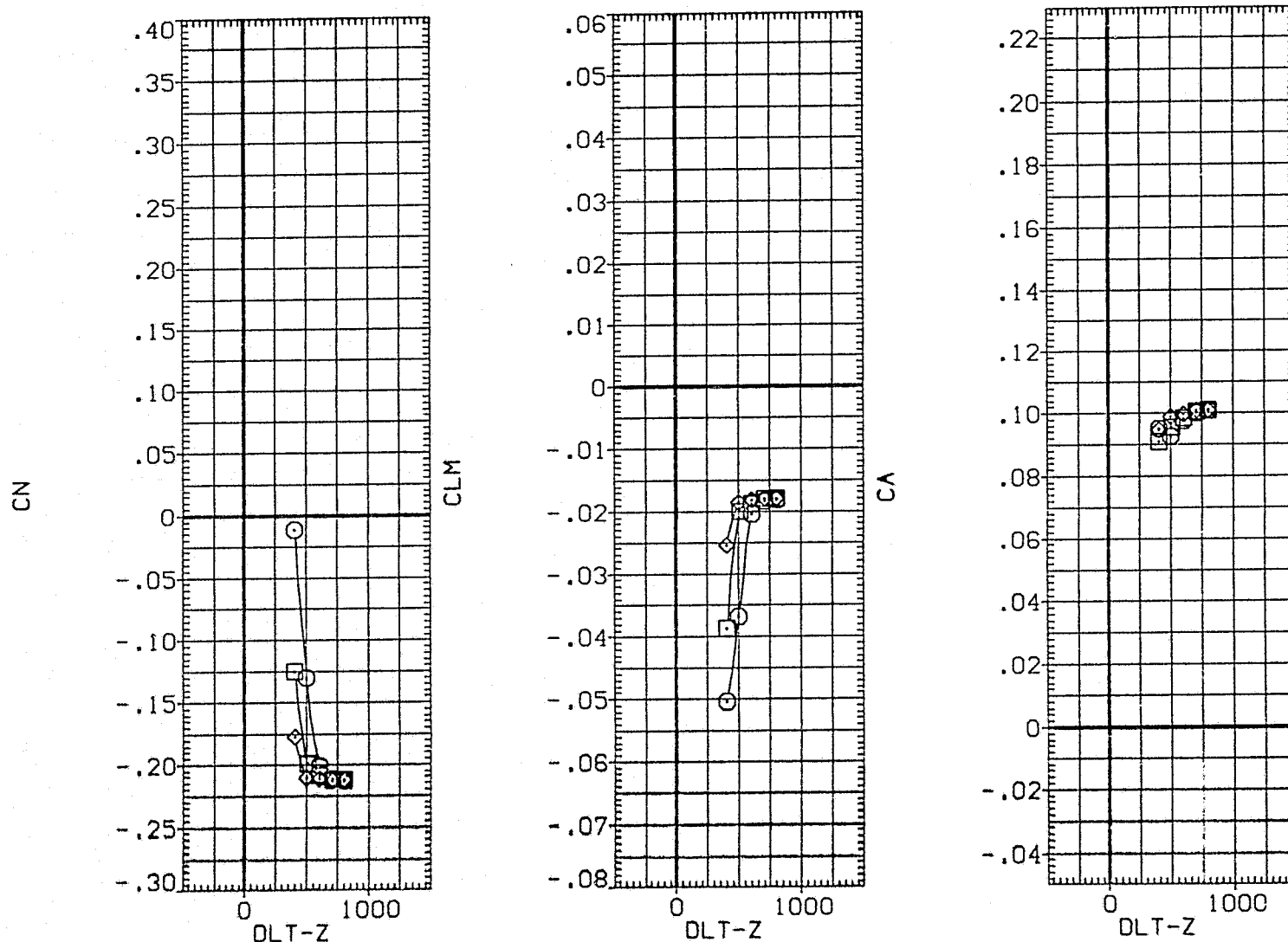


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR429)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.306	200.000	ALPHA	-10.000
□	200.430	BETA .000	DLTALF	-10.000
◇	400.430	DLTBTA 3.000	MACH	5.930
		AILRON .000	ELEVON	.000
		GRID 9.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1088.6000 IN. XC
YMRP	.0000 IN. YC
ZMRP	375.0000 IN. ZC
SCALE	.0100

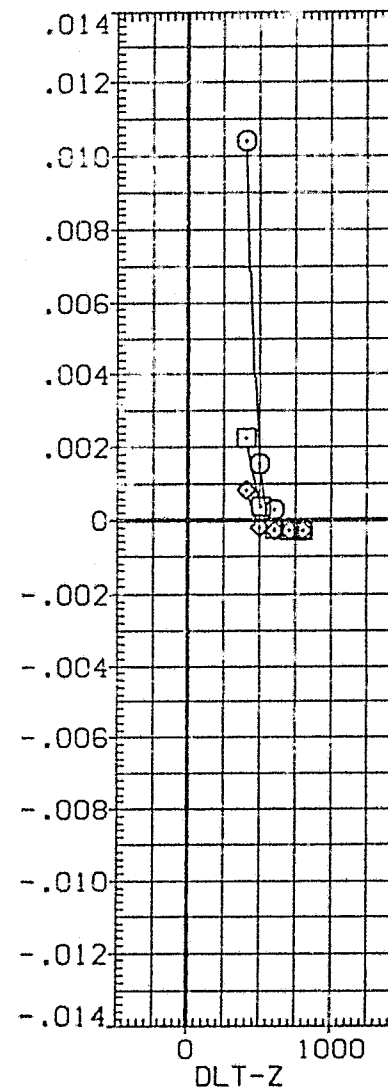
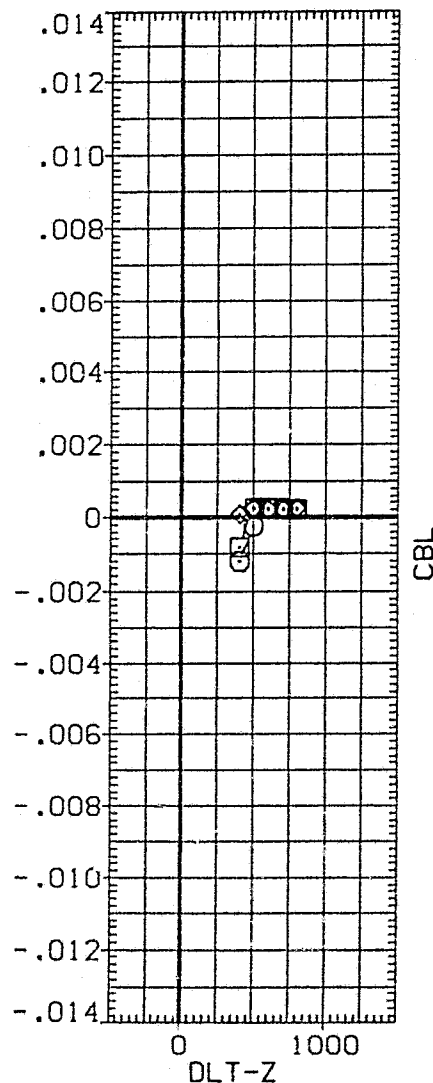
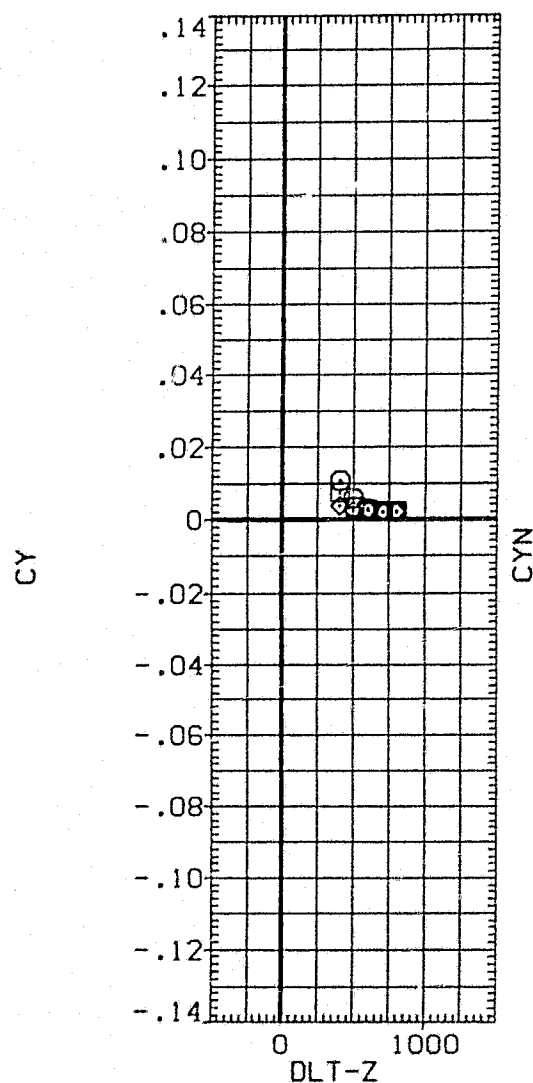


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y = 200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR426)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA	
○	.519	200.000	BETA	3.000	DLTALF
□	200.410	DLTBTB	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

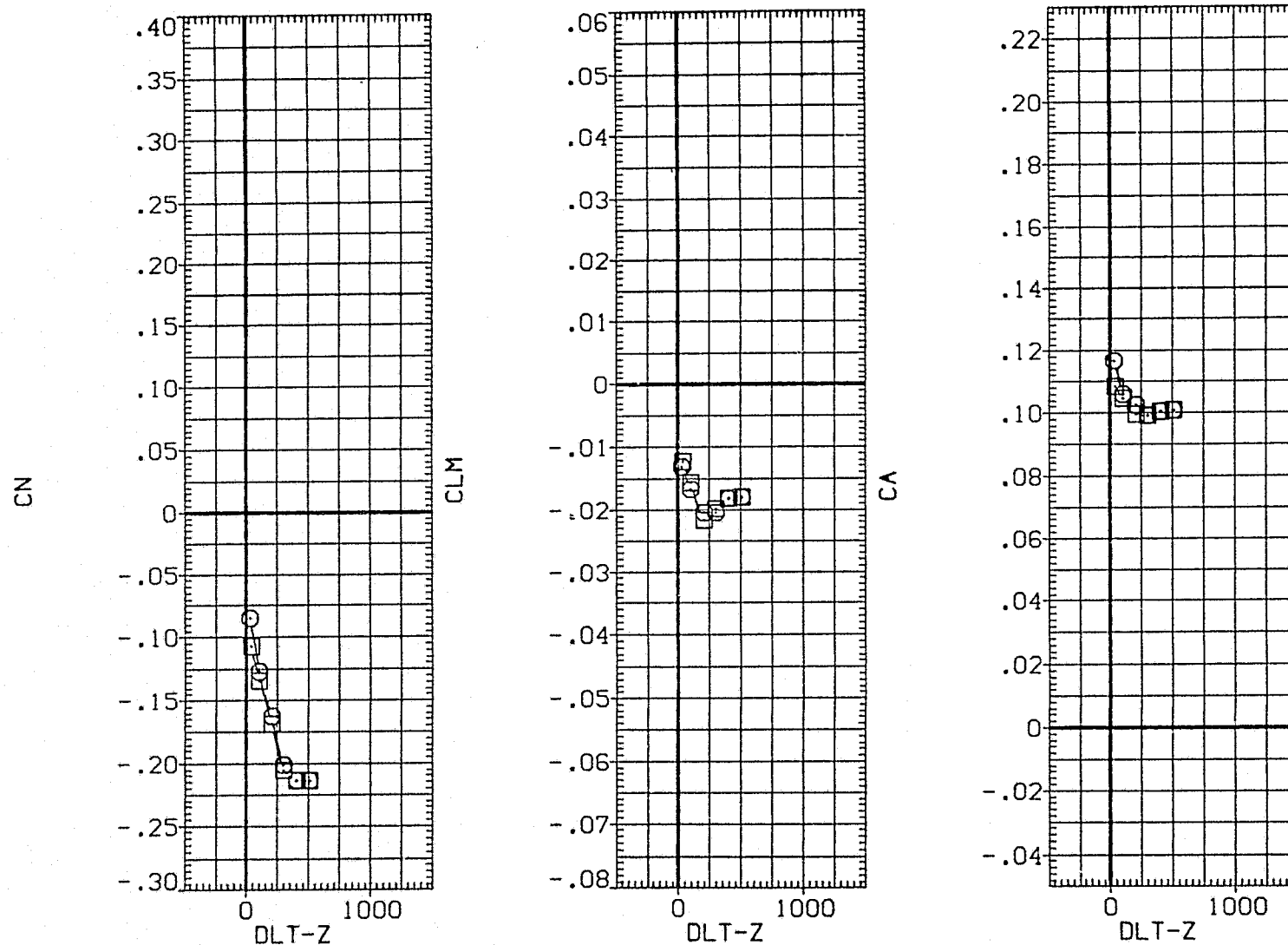


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR426)

SYMBOL	DLT-X		PARAMETRIC VALUES		
	.519	DLT-Y	200.000	ALPHA	-10.000
○		BETA	3.000	DLTALF	.000
□	200.410	DLTBTA	3.000	MACH	5.930
		AILRON	.000	ELEVON	.000
		GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

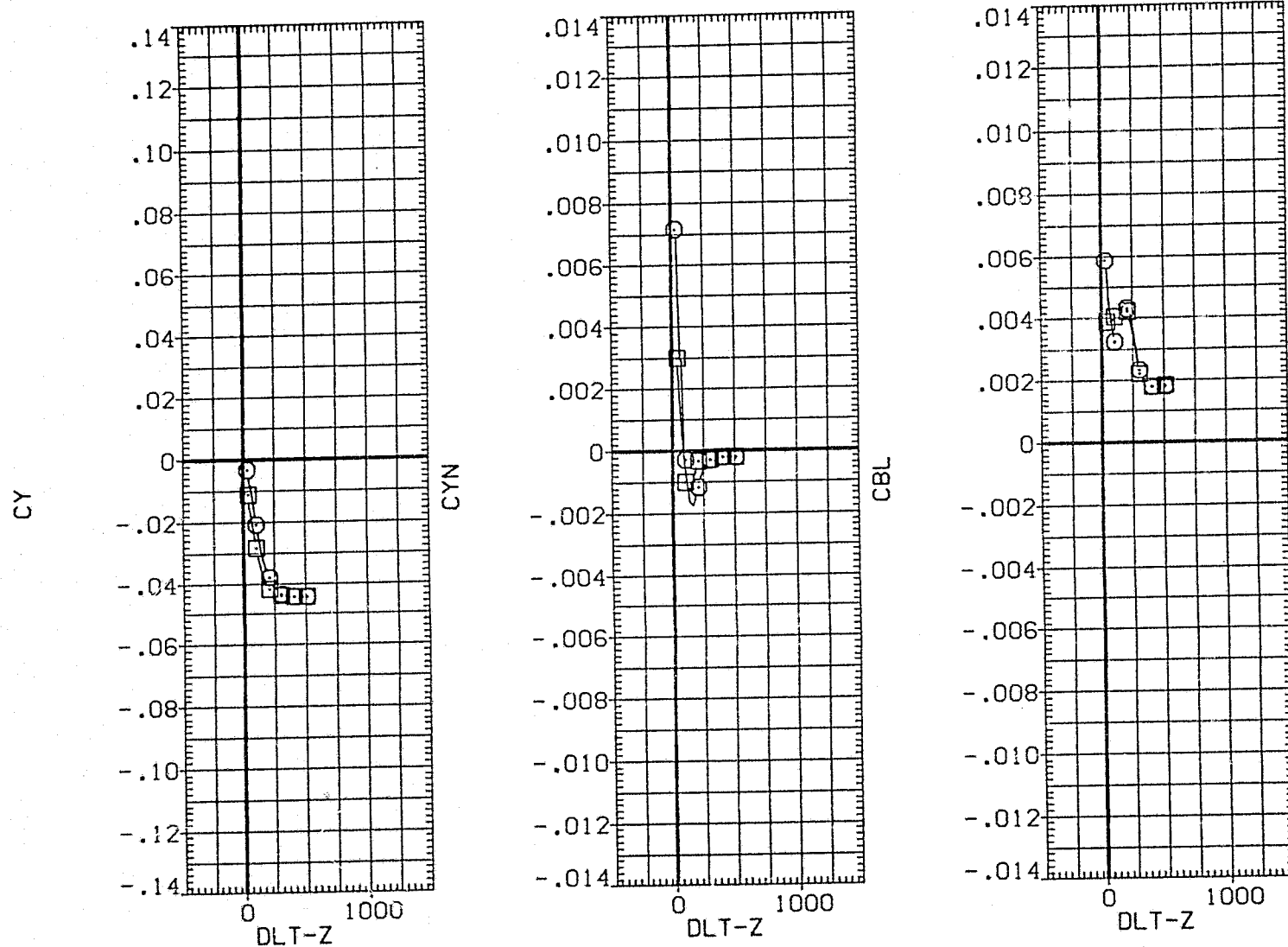


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y = 200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR427)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES
○	.363	200.000	ALPHA -10.000
□	200.490	BETA 3.000	DLTALF -10.000
◇	400.440	DLTBTA 3.000	MACH 5.930
		AILRON .000	ELEVON .000
		GRID 8.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XM RP	1089.6000	IN. X0
YM RP	.0000	IN. Y0
ZM RP	375.0000	IN. Z0
SCALE	.0100	

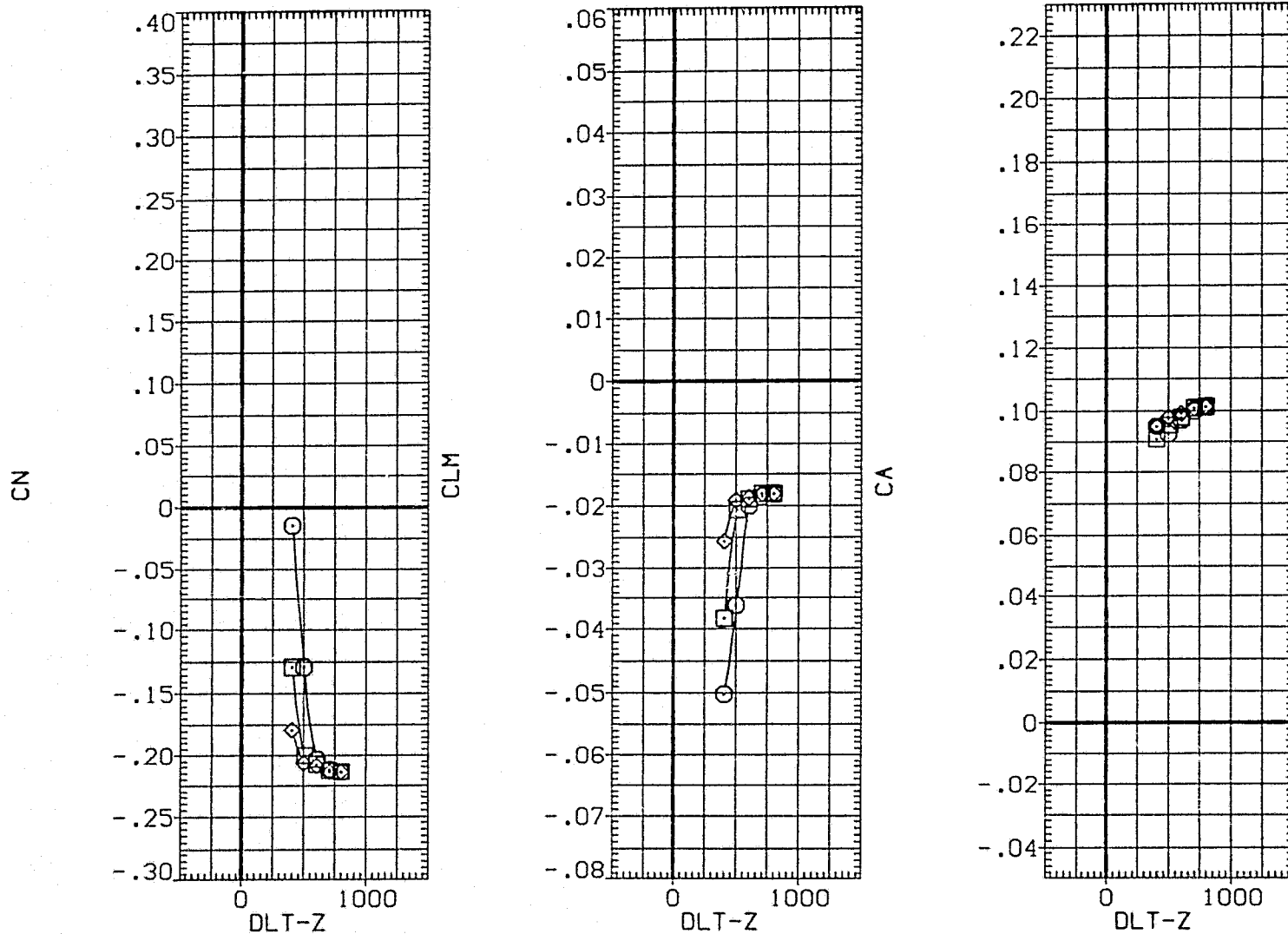


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR427)

SYMBOL ○ □ ◇	DLT-X	DLT-Y	PARAMETRIC VALUES	
	.363	200.000	ALPHA	-10.000
	200.490	3.000	DLTALF	-10.000
	400.440	3.000	MACH	5.930
		.000	ELEVON	.000
	GRID	8.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

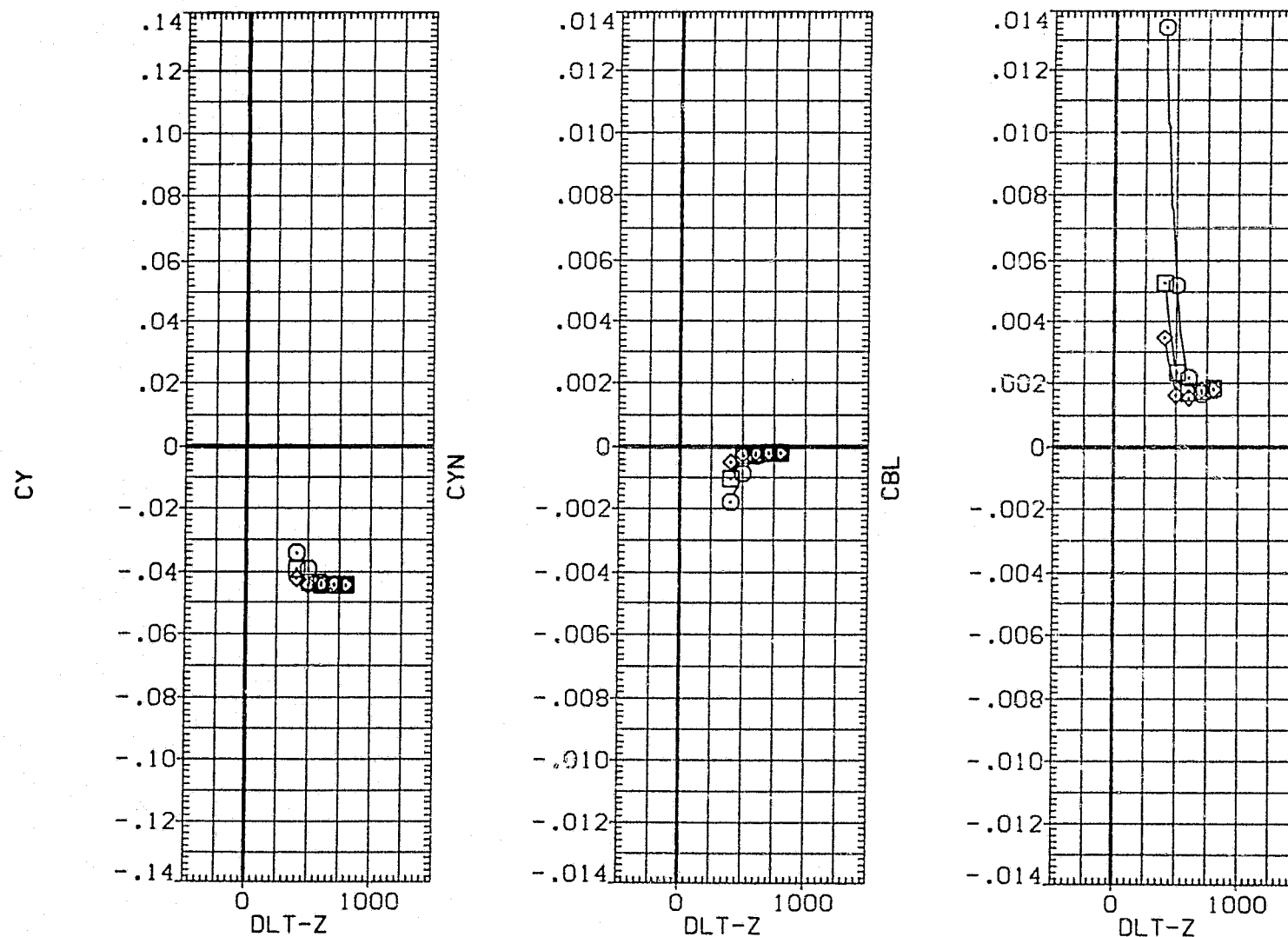


FIGURE 20 ORBITER AERO CHARACTERISTICS (DELTA-Y =200, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR601)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.543	-60.000	ALPHA	.000
□	200.470	.000	DLTALF	.000
		-3.000	MACH	5.930
		.000	ELEVON	.000
		1.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

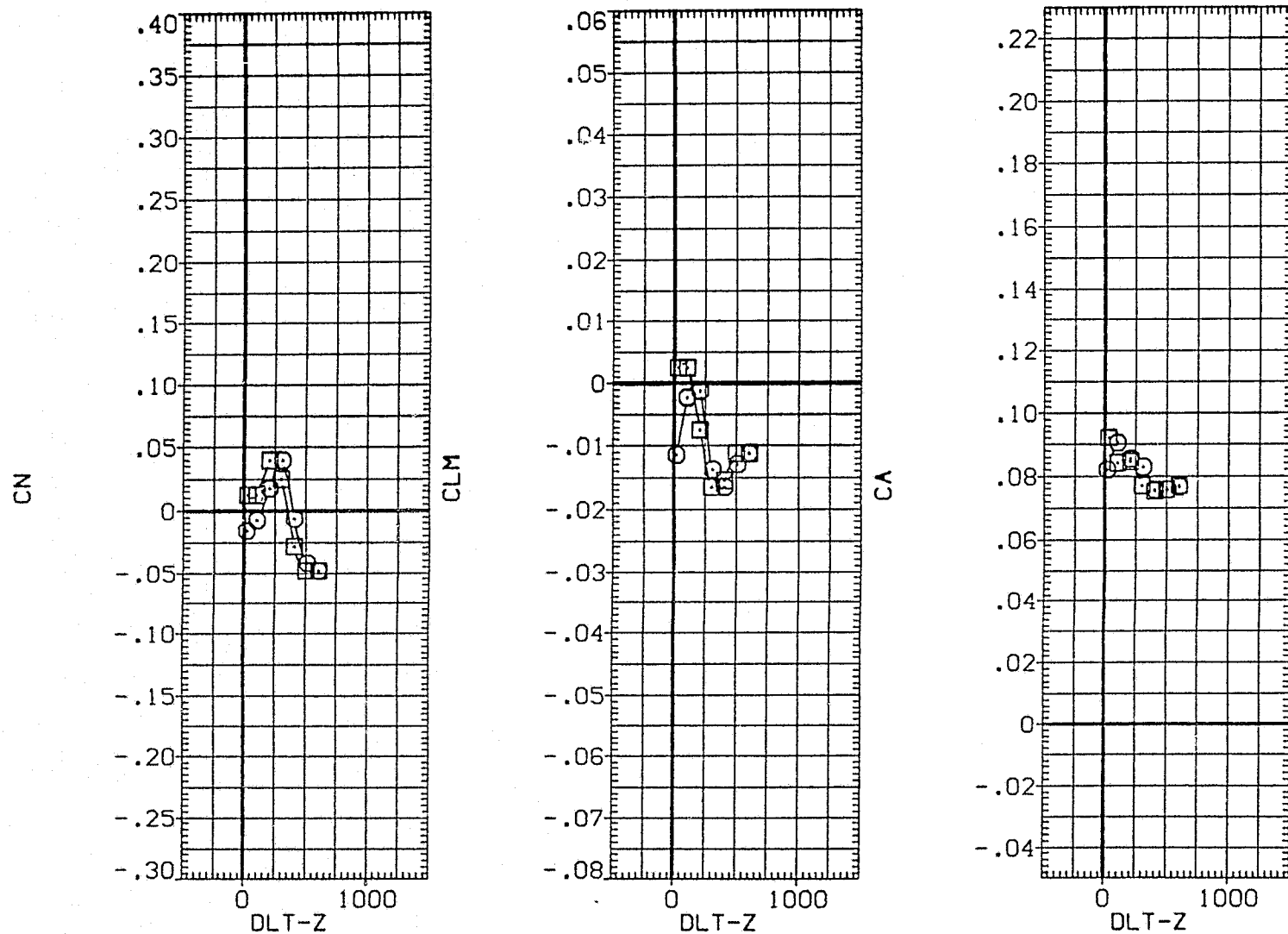


FIGURE 21 ORBITER AERO CHARACTERISTICS (DELTA-Y = -60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR601)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.543	-60.000	ALPHA	.000
□	200.470	.000	DLTALF	.000
		DLTBTA	MACH	5.930
		AILRON	ELEVON	.000
		GRID		1.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

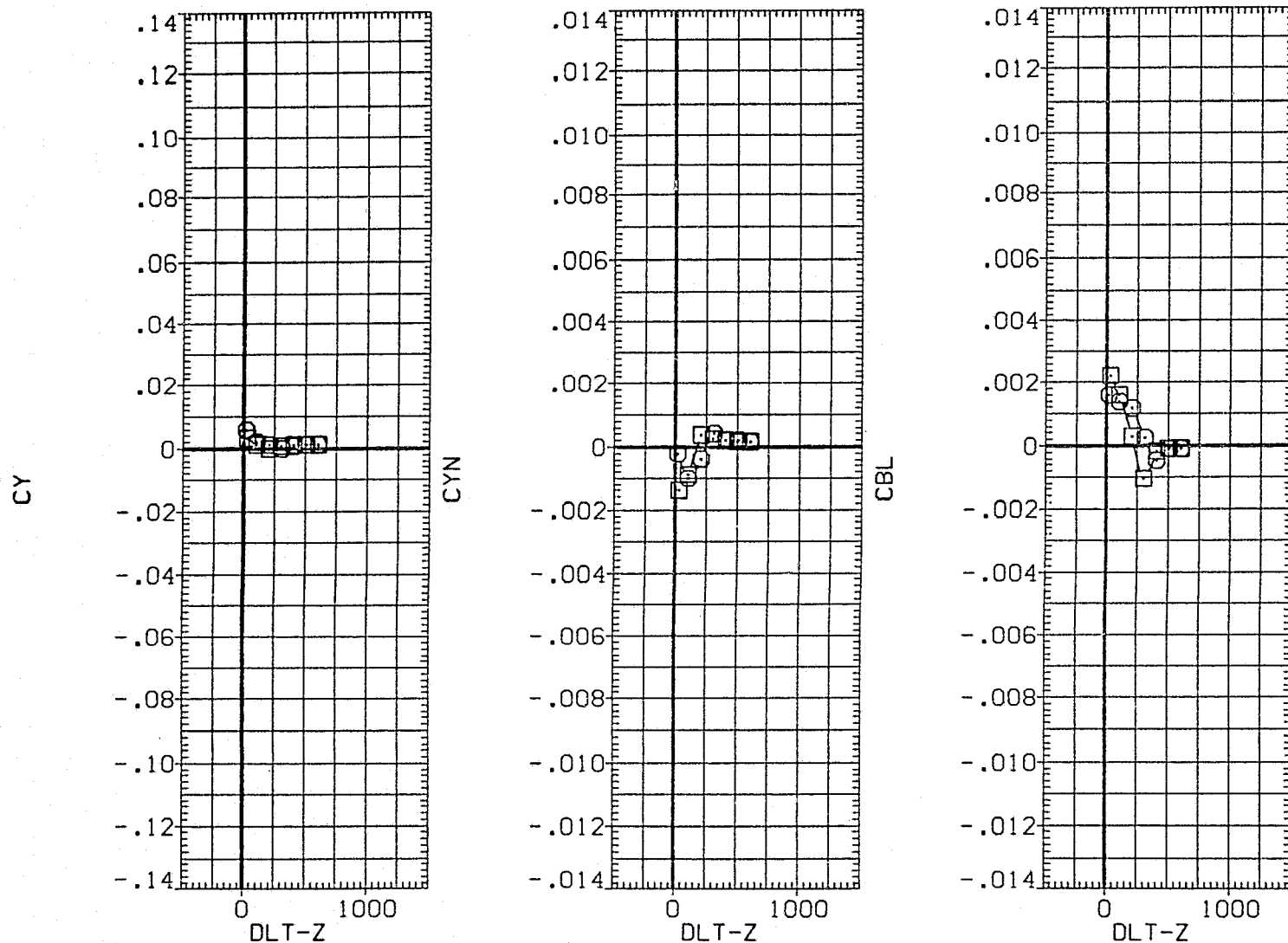


FIGURE 21 ORBITER AERO CHARACTERISTICS (DELTA-Y = -60, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR602)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	ALPHA
○	.488	-60.000	DLTALF	.000
□	200.440	.000	MACH	-10.000
		-3.000	ELEVON	5.930
		.000		.000
		1.000		

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	1089.6000 IN. X0
YMRP	.0000 IN. Y0
ZMRP	375.0000 IN. Z0
SCALE	.0100

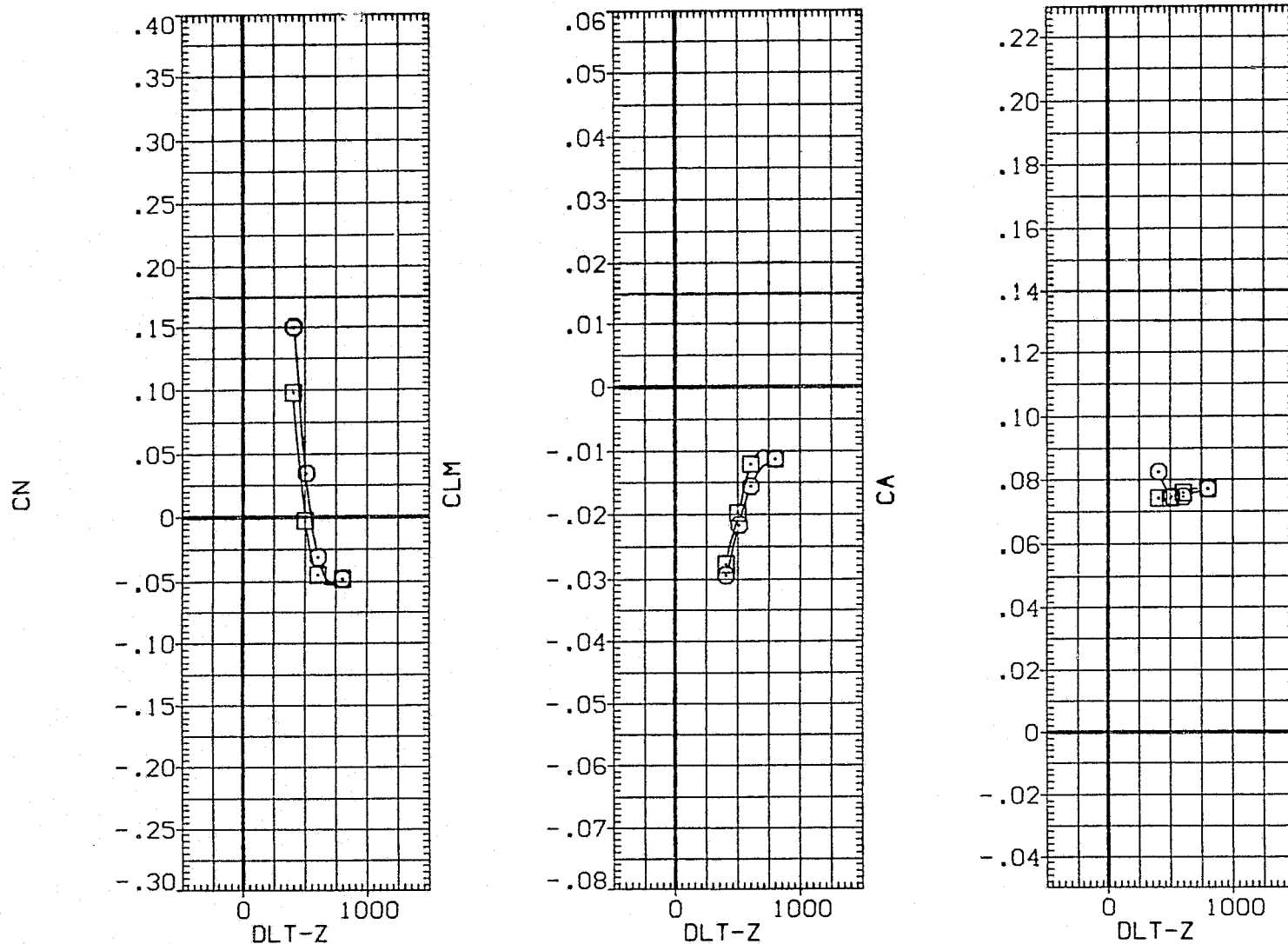


FIGURE 21 ORBITER AERO CHARACTERISTICS (DELTA-Y = -60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR602)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.468	-60.000	ALPHA	.000
□	200.440	.000	DLTALF	-10.000
		DLTBTA	MACH	5.930
		-3.000	ELEVON	.000
		AILRON		
		.000		
		GRID		
		1.000		

REFERENCE INFORMATION		
SREF	2690.0000	SO.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	1089.6000	IN. X0
ZMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

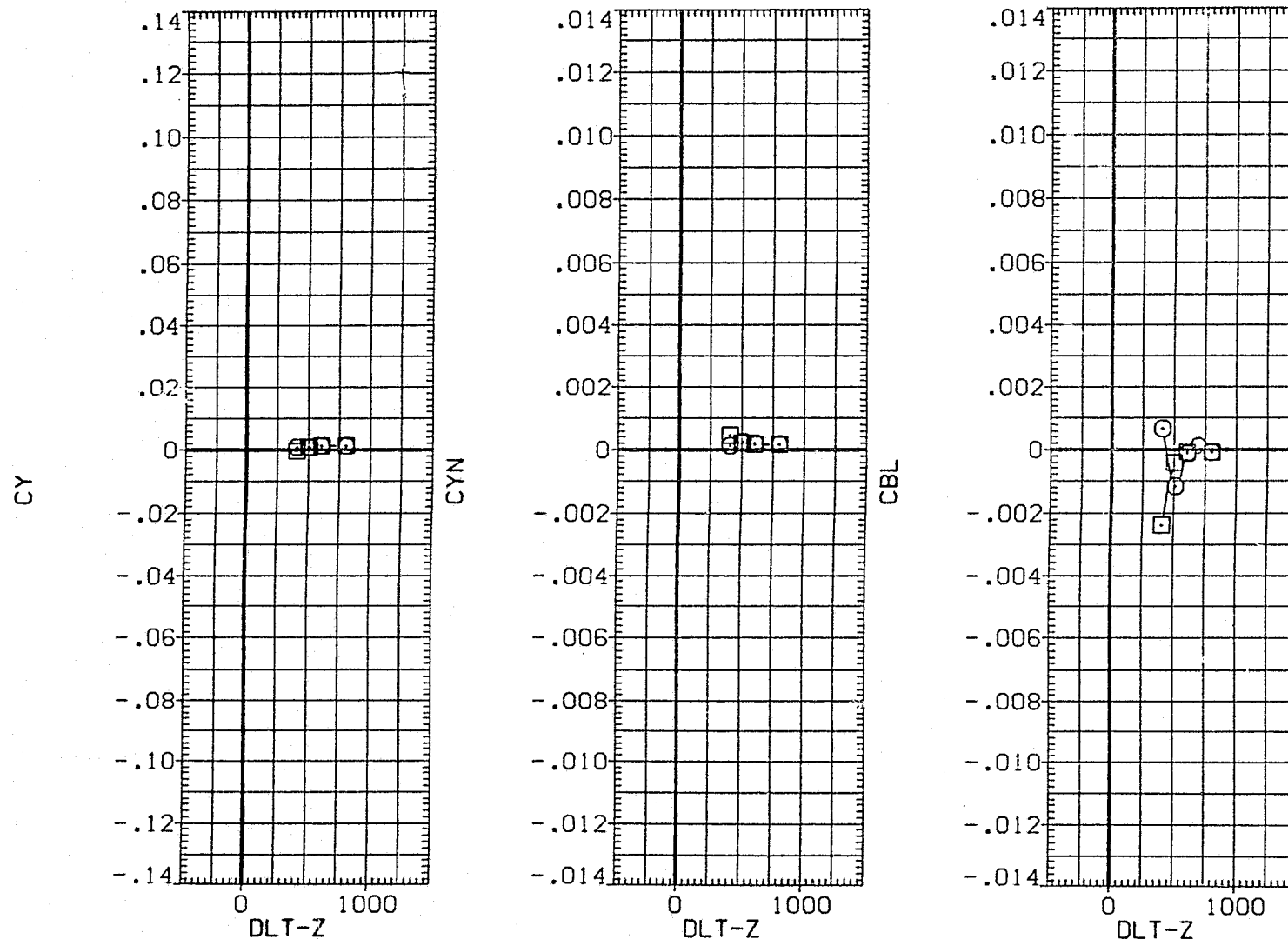


FIGURE 21 ORBITER AERO CHARACTERISTICS (DELTA-Y = -60, MACH= 5.93, ELEVON= 0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR603)

SYMBOL	DLT-X	DLT-Y	PARAMETRIC VALUES	
○	.602	-60.000	ALPHA	.000
□	200.510	.000	DLTALF	-20.000
		-3.000	MACH	5.930
		.000	ELEVON	.000
		1.000		

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

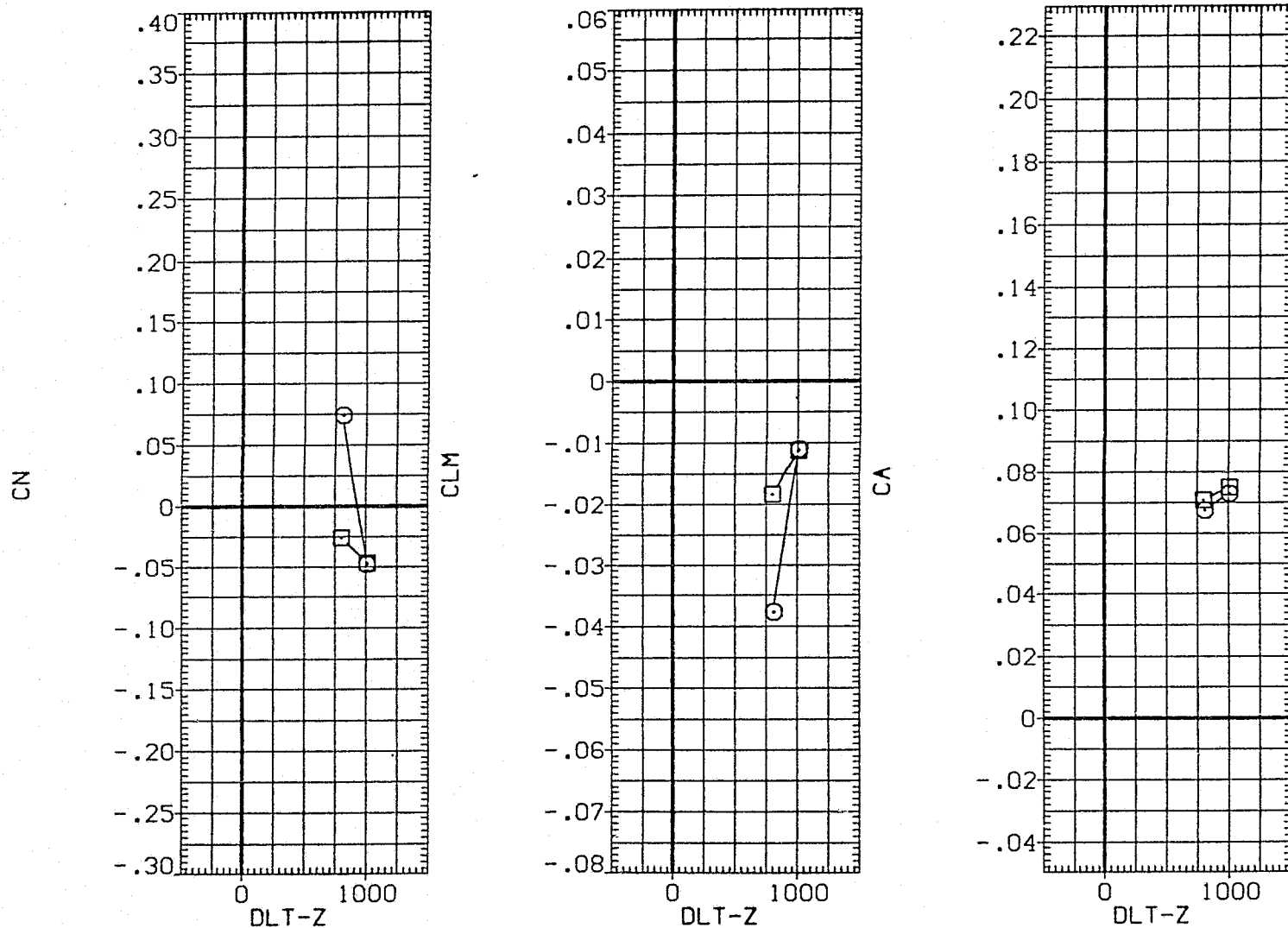


FIGURE 21 ORBITER AERO CHARACTERISTICS (DELTA-Y = -60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR603)

SYMBOL



DLT-X
.602
200.510

DLT-Y
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES

-60.000
.000
-3.000
.000
1.000

ALPHA
DLTALF
MACH
ELEVON

.000
-20.000
5.930
.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 1089.6000 IN. X0
YMRP .0000 IN. Y0
ZMRP 375.0000 IN. Z0
SCALE .0100

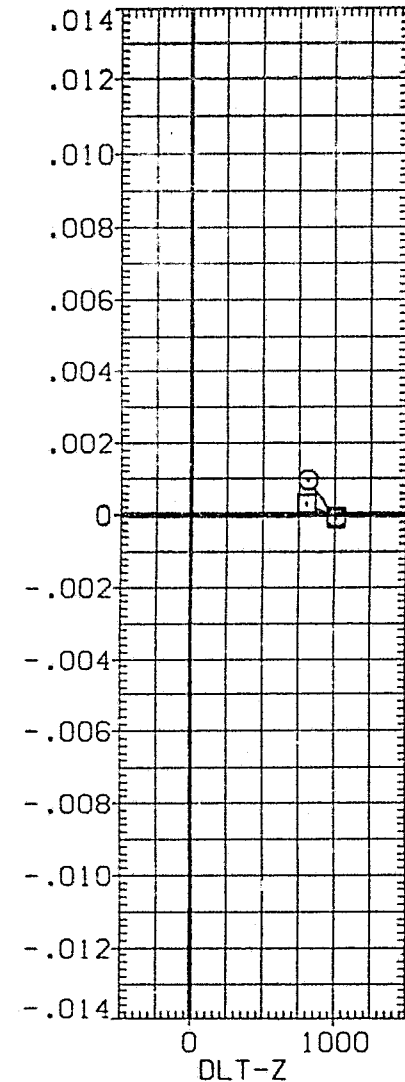
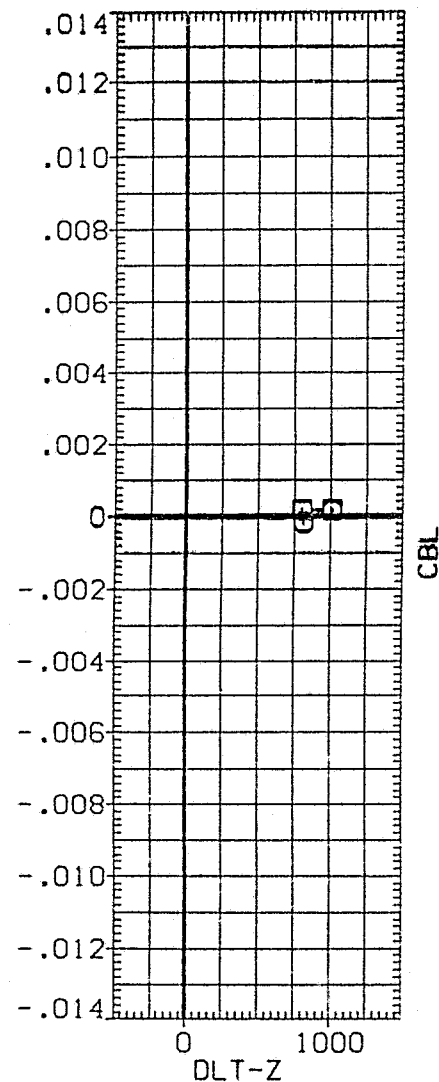
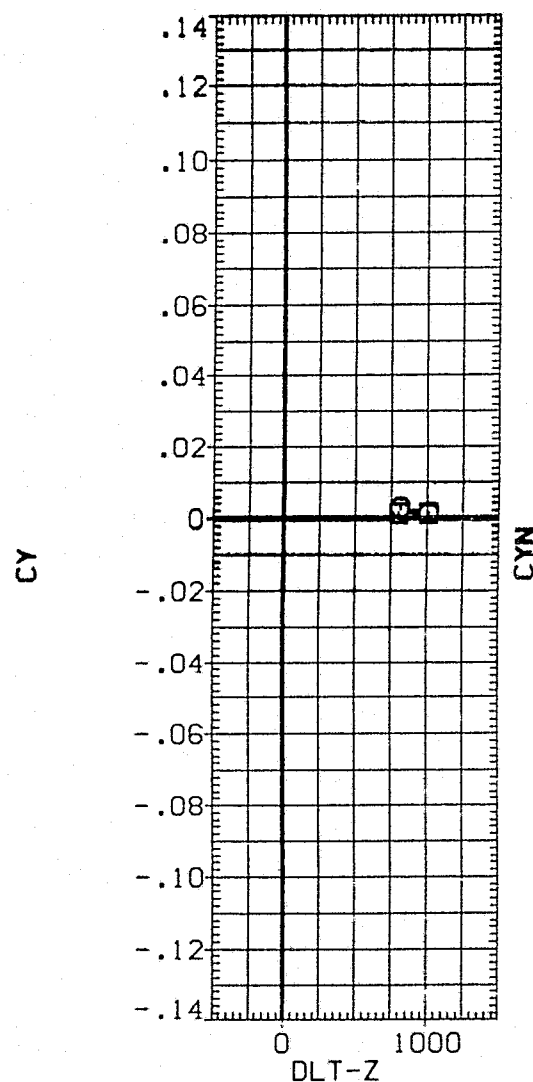


FIGURE 21 ORBITER AERO CHARACTERISTICS (DELTA-Y = -60, MACH= 5.93, ELEVON= 0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR701)

SYMBOL	DLT-Z	DLT-X	PARAMETRIC VALUES
○	20.015	.000	ALPHA .000
□	199.650	.000	DLTALF .000
◇	397.750	3.000	MACH 5.930
		.000	ELEVON .000
		2.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

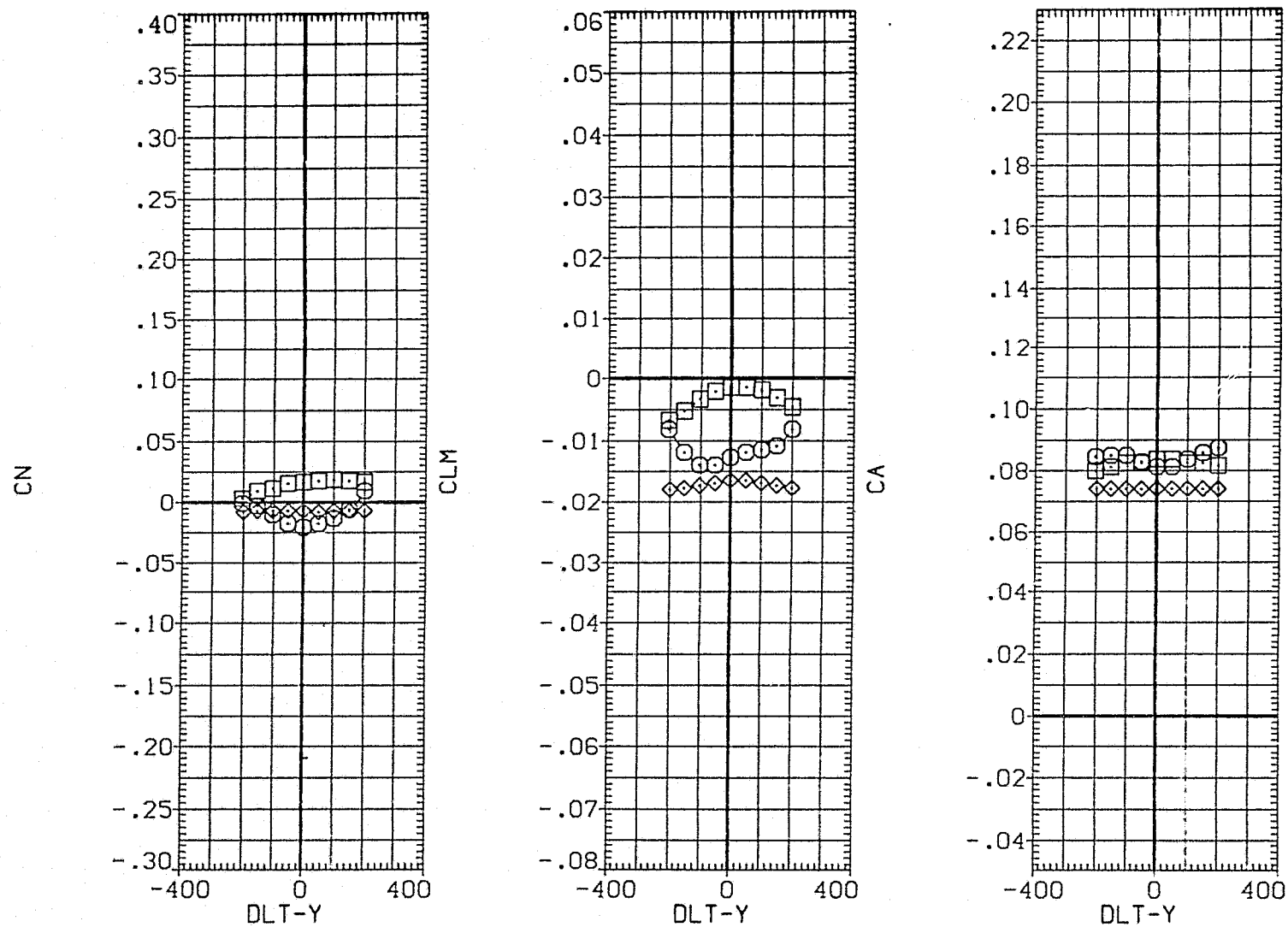


FIGURE 22 ORBITER AERO CHARACTERISTICS (DELTA-X = 0, MACH = 5.93, ELEVON=0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR701)

SYMBOL	DLT-Z	DLT-X	PARAMETRIC VALUES	ALPHA	
○	20.015	BETA	.000	.000	
□	199.650	DLTBT	.000	.000	
◇	397.750	AILRON	3.000	5.930	
		GRID	.000	.000	
			2.000		

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

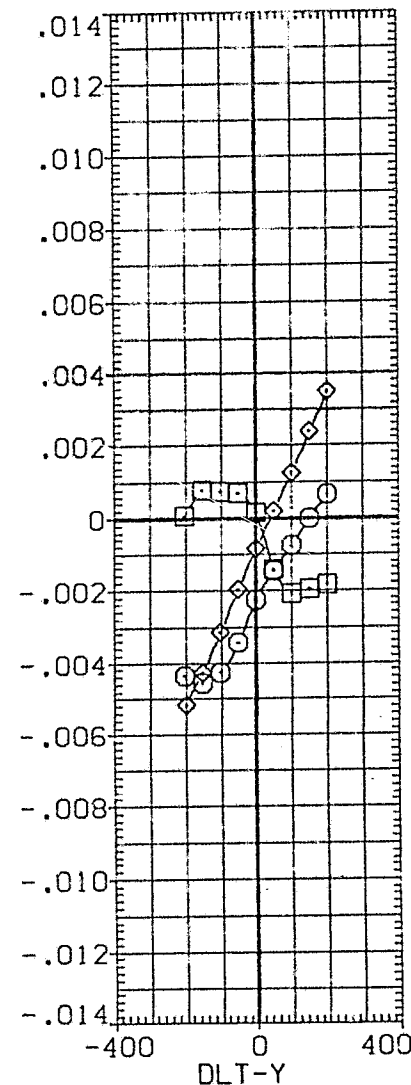
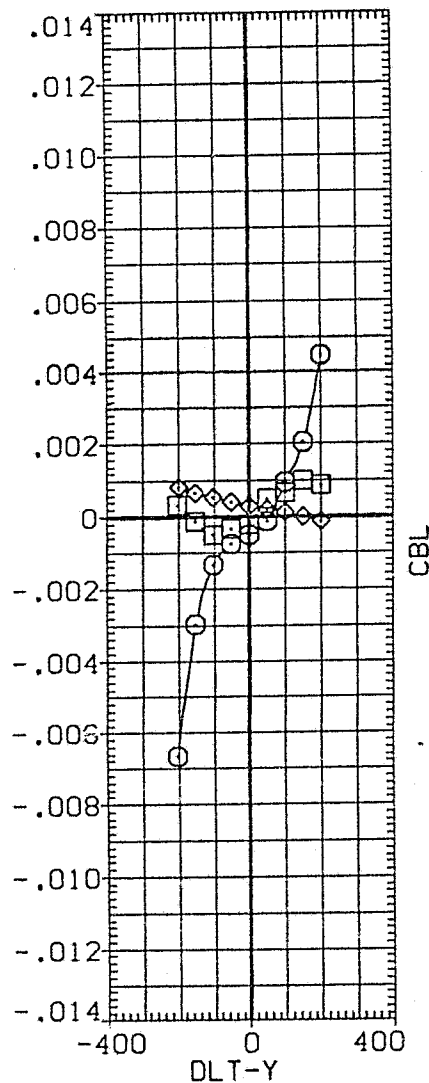
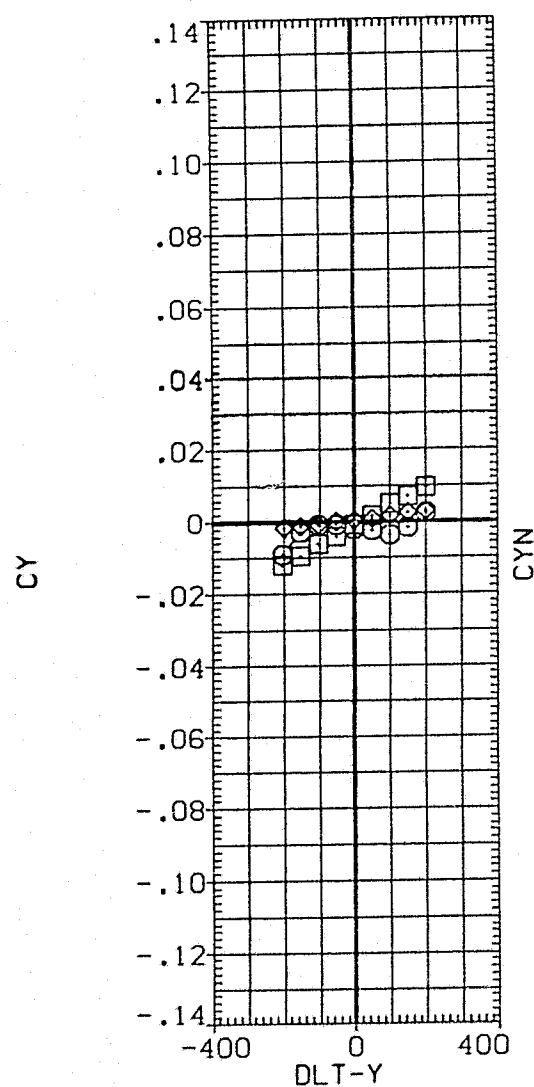


FIGURE 22 ORBITER AERO CHARACTERISTICS (DELTA-X = 0, MACH = 5.93, ELEVON=0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR702)

SYMBOL	DLT-Z	DLT-X	PARAMETRIC VALUES
○	20.571	.000	ALPHA .000
□	200.150	.000	DLTALF .000
◇	400.040	.000	MACH 5.930
		.000	ELEVON .000
		2.000	GRID

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

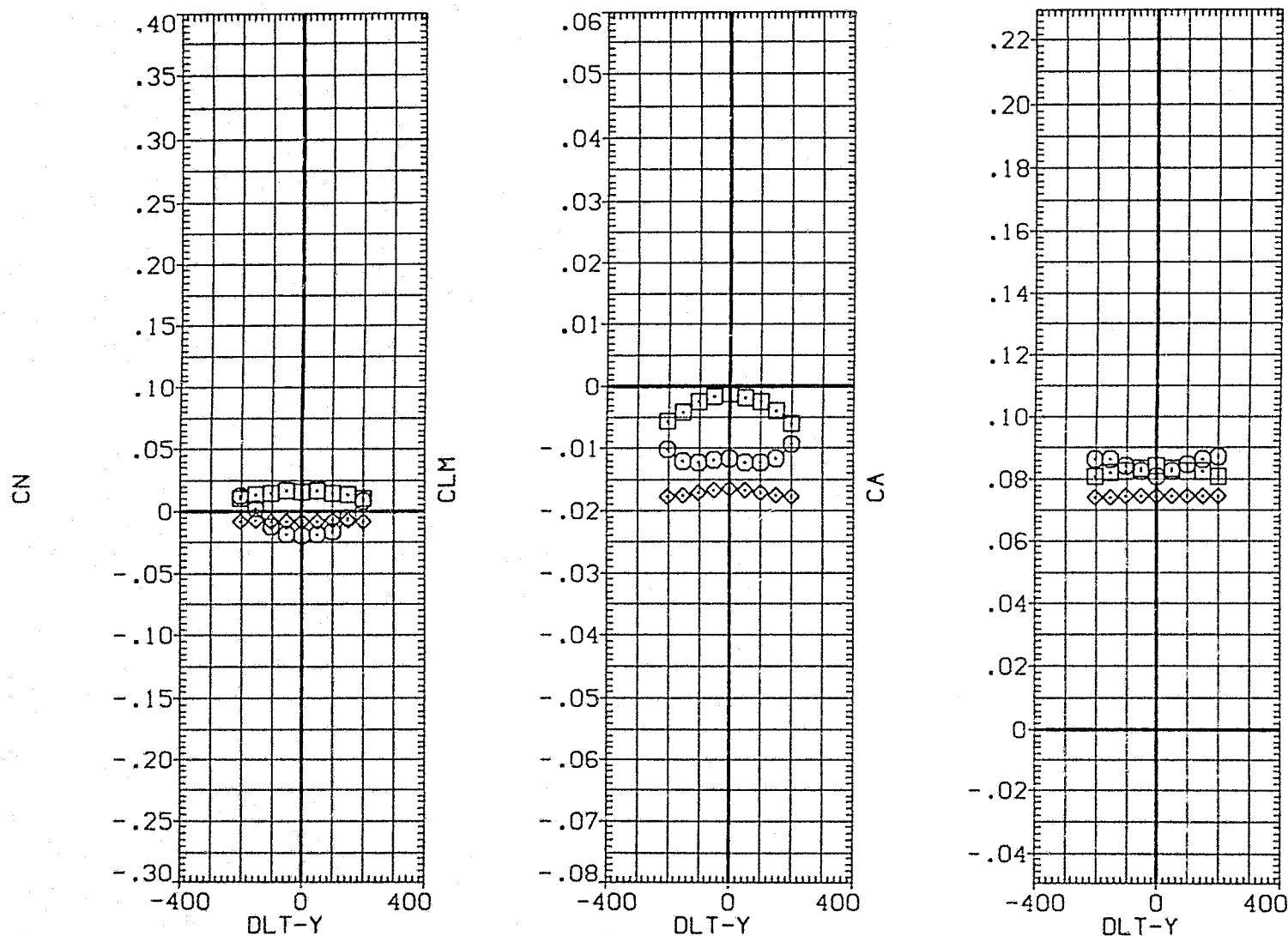


FIGURE 22 ORBITER AERO CHARACTERISTICS (DELTA-X = 0, MACH = 5.93, ELEVON=0)

AEDC VA422(IA17) ORB AND ET SEPARATING(ORB DATA)(RTR702)

SYMBOL	DLT-Z	DLT-X	PARAMETRIC VALUES	
○	20.571		.000	ALPHA .000
□	200.150	BETA	.000	DLTALF .000
◇	400.040	DLTBTA	.000	MACH 5.930
		AILRON	.000	ELEVON .000
		GRID	2.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

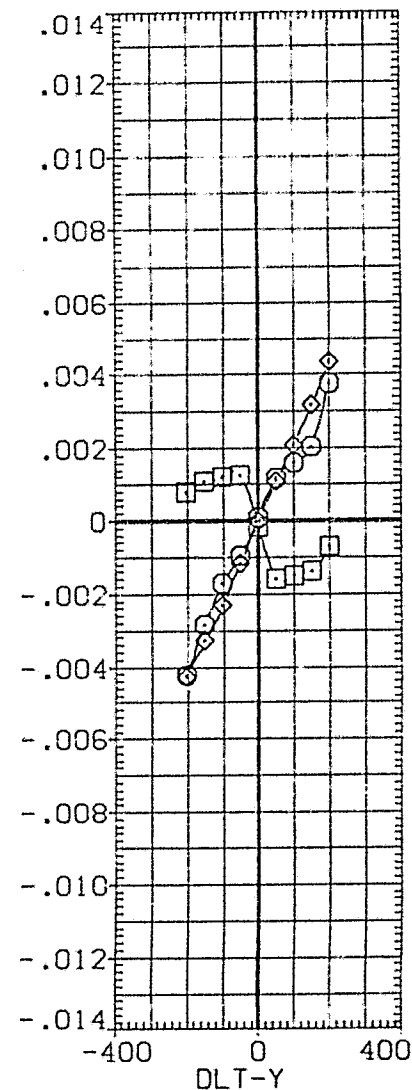
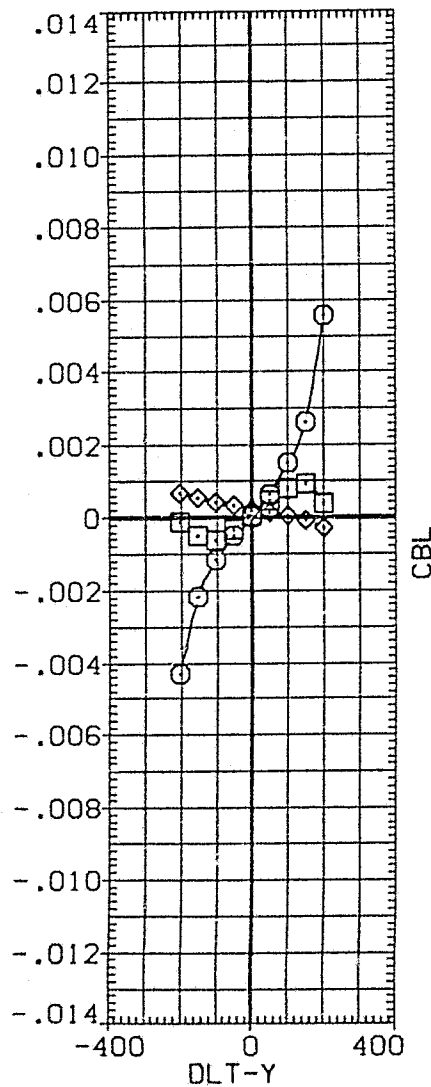
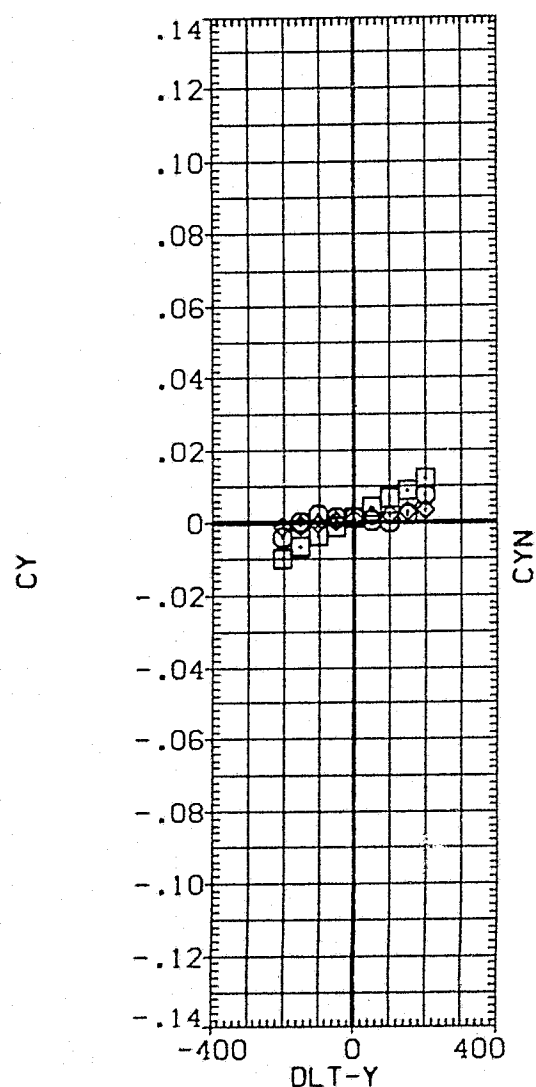


FIGURE 22 ORBITER AERO CHARACTERISTICS (DELTA-X =0, MACH = 5.93, ELEVON=0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR703)

SYMBOL	DLT-Z	DLT-X	PARAMETRIC VALUES	
○	20.091		.000 ALPHA	.000
□	199.880	BETA	.000 DLTALF	.000
◇	400.200	DLTBTA	-3.000 MACH	5.930
		AIRLON	.000 ELEVON	.000
		GRID	2.000	

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	1089.6000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0100	

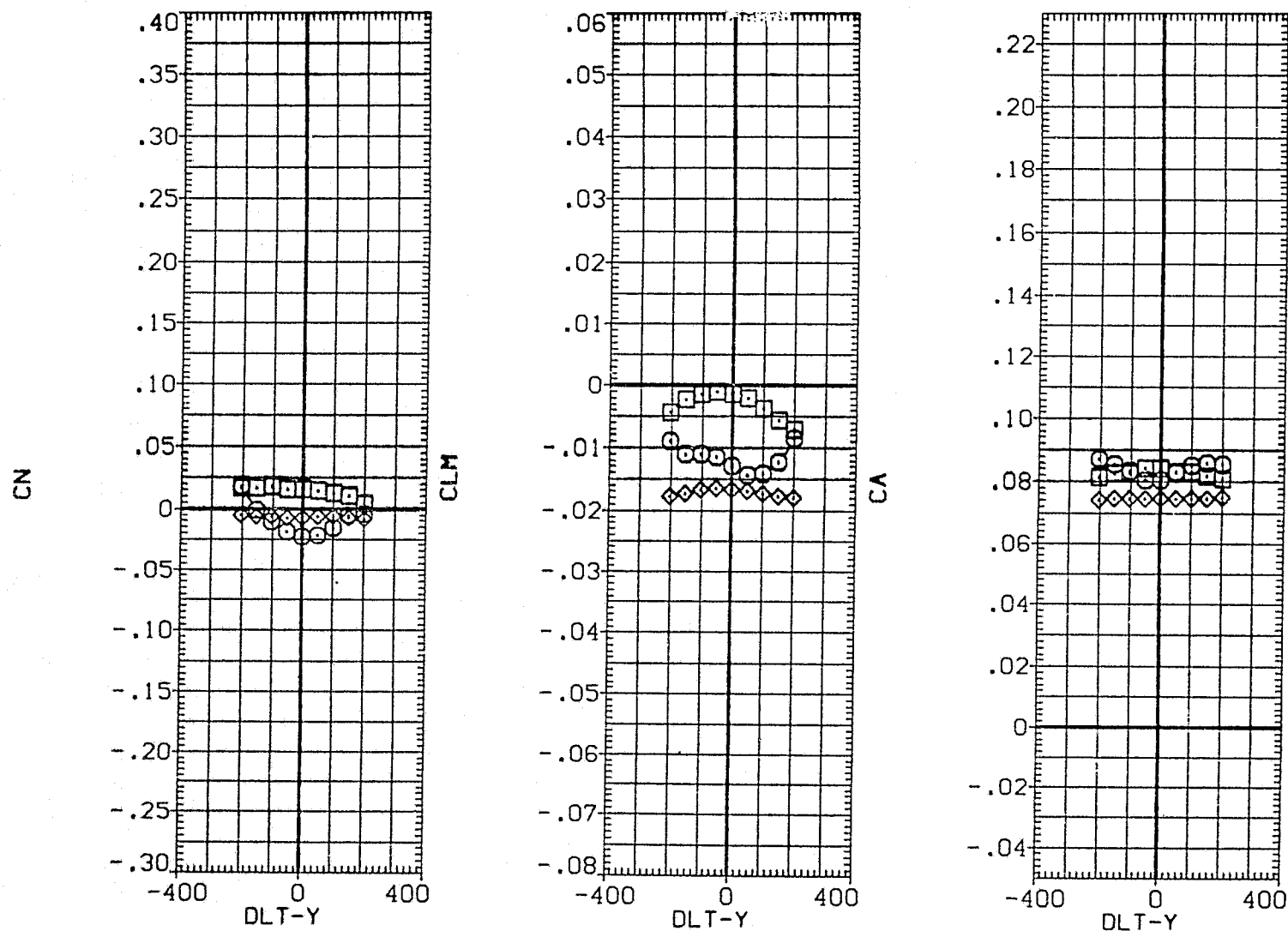


FIGURE 22 ORBITER AERO CHARACTERISTICS (DELTA-X =0, MACH = 5.93, ELEVON=0)

AEDC VA422(1A17) ORB AND ET SEPARATING(ORB DATA)(RTR703)

SYMBOL
○
□
◇

DLT-Z
20.091
199.880
400.200

DLT-X
BETA
DLTBTA
AILRON
GRID

PARAMETRIC VALUES
.000 ALPHA
.000 DLTALF
-3.000 MACH
.000 ELEVON
2.000

.000
.000
5.930
.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRF	1089.6000	IN. X0
YMRF	.0000	IN. Y0
ZMRF	375.0000	IN. Z0
SCALE	.0100	

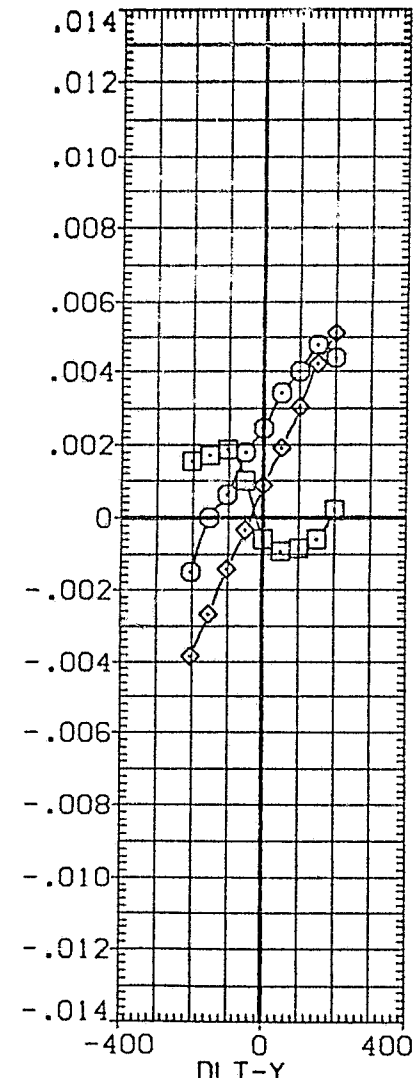
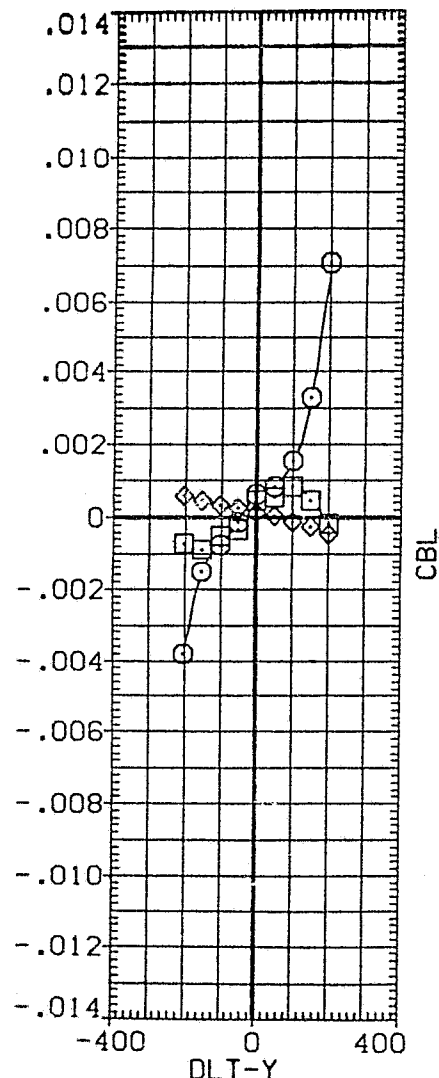
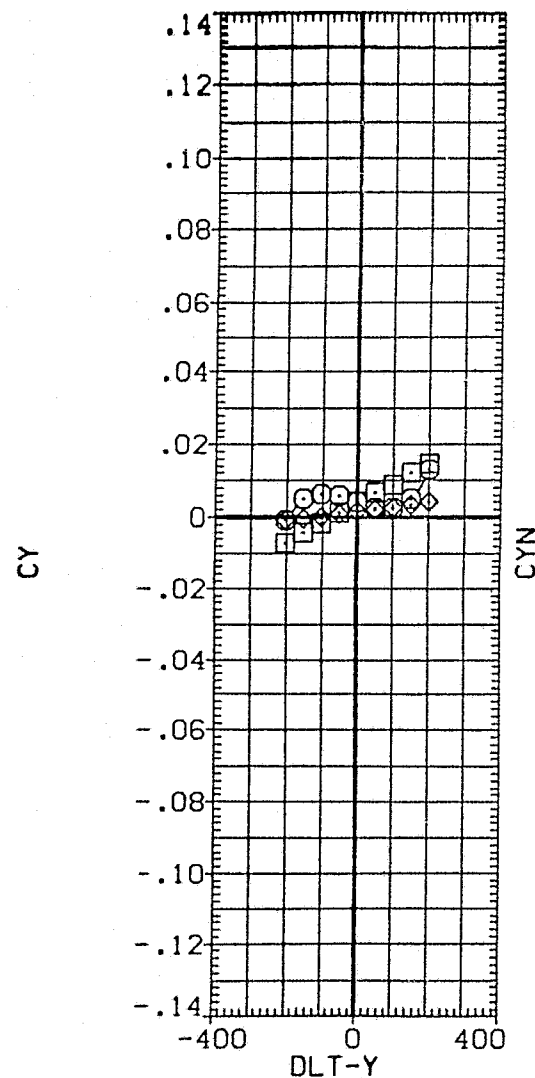


FIGURE 22 ORBITER AERO CHARACTERISTICS (DELTA-X = 0, MACH = 5.93, ELEVON=0)